



TEST REPORT

FCC ID: 2AXYP-OHP-917

Product: Wireless Headphones

Model No.: OHP-917 **Trade Mark: oraimo**

Report No.: WSCT-ANAB-R&E241200081A-BT

Issued Date: 13 February 2025

Issued for:

ORAIMO TECHNOLOGY LIMITED FLAT N 16/F BLOCK B UNIVERSAL INDUSTRIAL CENTRE 19-25 SHAN MEI STREET FOTAN NT HONGKONG

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Issued By:

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World Standardization Certification & Testing Group(Shenzhen) Co.,Ltd. Building A-B, Baoli'an Industrial Park, No. 58 and 60, Tangtou Avenue, Shiyan Street, Bao'an District, Shenzhen City, Guangdong Province, China

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Test Certification

Wireless Headphones **Product:**

Model No.: OHP-917

oraimo **Trade Mark:**

Applicant: ORAIMO TECHNOLOGY LIMITED

FLAT N 16/F BLOCK B UNIVERSAL INDUSTRIAL CENTRE

19-25 SHAN MEI STREET FOTAN NT HONGKONG

ORAIMO TECHNOLOGY LIMITED Manufacturer:

FLAT N 16/F BLOCK B UNIVERSAL INDUSTRIAL CENTRE

WSCT

19-25 SHAN MEI STREET FOTAN NT HONGKONG

03 January 2025 to 13 February 2025 W5 [7] **Date of Test:**

Applicable FCC CFR Title 47 Part 15 Subpart C Section 15.247 Standards:

The above equipment has been tested by World Standardization Certification & Testing Group(Shenzhen)Co., Ltd. and found compliance with the requirements set forth in the technical standards mentioned above. The results of testing in this report apply only to the product/system, which was tested. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

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Tested By:

(Wang Xiang)

Checked By:

(Chen Xu)

Approved By:

(Li Huaibi)

Date:

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Test Result Summary 2.

	THE CT .	THE CT	TARREST CO.	77
7	Requirement	CFR 47 Section	Result	
	Antenna Requirement	§15.203/§15.247 (c)	PASS	
7 °	AC Power Line Conducted Emission	WSET §15.207	NA NA	1
_	Conducted Peak Output W5 [7] Power W5 [§15.247 (b)(1) §2.1046	W5 L PASS	W
	20dB Occupied Bandwidth	§15.247 (a)(1) §2.1049	PASS	
	Carrier Frequencies Separation	§15.247 (a)(1)	PASS	7
	Hopping Channel Number	§15.247 (a)(1)	W5 C PASS	K
7	Dwell Time	§15.247 (a)(1)	PASS	
	Radiated Emission	§15.205/§15.209 W-§2.1053, §2.1057 W-5 ET	PASS _{V5} CT	_
	Band Edge	§15.247(d) §2.1051, §2.1057	PASS	

Note:

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1. PASS: Test item meets the requirement.

2. Fail: Test item does not meet the requirement.

3. N/A: Test case does not apply to the test object.

4. The test result judgment is decided by the limit of test standard.

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3. EUT Description

Product Name:	Wireless Headphones 7 W577	V5 CT
Model :	OHP-917	
Trade Mark:	oraimo	,
Operation Frequency:	2402MHz~2480MHz	
Channel Separation:	1MHz	\times
Number of Channel:	797 WSET WSET	V5 CT
Modulation Type:	GFSK, π/4-DQPSK, 8-DPSK	
Modulation Technology:	FHSS WSET WSET WSET	
Antenna Type:	PCB Antenna	\times
Antenna Gain:	1.02dBi	V5 CT
Operating Voltage	Nominal Voltage: 3.70V Rated Energy: 2.96Wh Rated Capacity: 800mAh	,
Remark:	N/A.	X
	Model: Trade Mark: Operation Frequency: Channel Separation: Number of Channel: Modulation Type: Modulation Technology: Antenna Type: Antenna Gain: Operating Voltage	Model: OHP-917 Trade Mark: Oraimo Operation Frequency: 2402MHz~2480MHz Channel Separation: 1MHz Number of Channel: FHSS Modulation Type: Modulation Technology: Antenna Type: Antenna Type: PCB Antenna Antenna Gain: 1.02dBi Rechargeable Li-ion Battery: 703040 Nominal Voltage: 3.70V Rated Energy: 2.96Wh Rated Capacity: 800mAh Limited Charge Voltage: 4.20V

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	W5 ET	WSET	WSET	WSET	W5ET*
Wester	$\langle \rangle$	$\langle \rangle$		X	

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Operation Frequency each of channel for GFSK, π/4-DQPSK, 8DPSK

	Opolatio	m i roquomo	y cash c	· onami	J. O. D. 1	1117 1 2 41 6	11, 02.	. •
	Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
	MO5 [7	2402MHz	V20 [7	2422MHz	40 [2442MHz	605 [2462MHz
	1	2403MHz	21	2423MHz	41	2443MHz	61	2463MHz
	10	2412MHz	30	2432MHz	50	2452MHz	70	2472MHz
	11	2413MHz	31	2433MHz	51	2453MHz	71	2473MHz
	X		\sim		X		X	
	18	2420MHz	38	2440MHz	58	2460MHz	78	2480MHz
_		2421MHz	V39 C7	2441MHz	159 C	2461MHz	W5 E	7°-
/	Remark: (Channel 0/3	0 &78 ha	ve heen tes	ted for G	FSK T//-DO	DESK 8F)PSK

	Remark: Ch modulation i		ave been tested to	or GFSK, π/4-DQI	PSK, 8DPSK	
	WSET	WSET	WSET	WSET	W5L	7
	WSET	WSE		567	W5CT°	WSET
	WSET	WSCT	W5CT°	WSET	WSI	7
	WSET	WSC	W	SET	WSCT	WSET
	WSET	WSET	WSET	WSET	WSI	
	WSET	WSG		SET	WSCT	WSET
	WSET	WSLT	WSET	WSET	WSI	
	WSET	WSC			\times	X
	WSET	WSET	WSCT	WSET	andardizatio,	WS CT
/	ADD: Building A-B,Baoil'an Industrial Park,No. 5 TEL: 0086-755-26996192 26998053 26996144		reet, Bao'an District, Shenzhen City, E-mail: fengbing.wang@wsct-cert.com	Guangdong Province, China.	II世标检测认证股份有限公司 Id Standardization Certification& Testi	DISOM # PITTO

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Genera Information 4.

4.1. Test environment and mode

Operating Environment:	
Temperature:	25.0 °C
Humidity:	56 % RH
Atmospheric Pressure:	1010 mbar

Test Mode:

Engineering mode: Keep the EUT in continuous transmitting by select channel and modulations with Fully-charged battery

The sample was placed 0.8m & 1.5m for the measurement below & above 1GHz above the ground plane of 3m chamber. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating the turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case are shown in Test Results of the following pages.

Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

8	Equipment	Model No.	Serial No.	FCC ID	Trade Name
	Adapter	XCU32	1	1	X /

Note:

- 1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
- 2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.
- 3. For conducted measurements (Output Power, 20dB Occupied Bandwidth, Carrier Frequencies Separation, Hopping Channel Number, Dwell Time, Spurious Emissions), the antenna of EUT is connected to the test equipment via temporary antenna connector, the antenna connector is soldered on the antenna port of EUT, and the temporary antenna connector is listed in the Test Instruments.

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5. Facilities and Accreditations

5.1. Facilities

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All measurement facilities used to collect the measurement data are located at World Standardization Certification & Testing Group (Shenzhen) Co., Ltd. Building A-B,Baoli'an Industrial Park,No.58 and 60,Tangtou Avenue, Shiyan Street, Bao'an District, Shenzhen City, Guangdong Province, China

The sites are constructed in conformance with the requirements of ANSI C63.4 and CISPR Publication 22. All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

5.2.ACCREDITATIONS

an Industrial Park, No.58 a

ANAB - Certificate Number: AT-3951

The EMC Laboratory has been accredited by the American Association for Laboratory
Accreditation (ANAB). Certification Number: AT-3951

WSEI	WSEI	WSCT	WSET	WSET
WSET	WSET	WSET	WSET	WSCT
WSCI	$\langle \rangle$	\times	WSET	WSET
WSET	WSET	WSET	WSET	WSCT
WSCI	$\langle \hspace{0.1cm} \hspace{0.1cm}$	\times	WSET	WSET
WSET	WSCT	WSCT	WSET	WSET
WSCI	$\langle \ \ \ \ \ \ \ \ \ \ \ \ \$	\times	WSET	X
WSET	WSCT	WSCI	WSET	WSCT Stime ation & Testing Gioup (Shenzho)

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5.3. Measurement Uncertainty

The reported uncertainty of measurement $y \pm U$, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95 %.

WSCT	No.	Item	MU	
	1	Conducted Emission Test	±3.2dB	X
	2	RF power, conducted	±0.16dB	
	3	Spurious emissions, conducted	±0.21dB	W5 C
X	4	All emissions, radiated(<1GHz)	±4.7dB	
WSET	5	All emissions, radiated(>1GHz)	±4.7dB/5	
	6	Temperature	±0.5°C	X
	7	Humidity	±2.0%	wer
	Z 1 / J = J =			

WSET	WSET	WS ET	WSET	WSET	
	SET WS		SET	WSCT	WSET
WSET	WSET	WSET	WSCT	WSET	
W	SET WS	ET W	SET	WSET	WSCT
WSET	WSCT	WSET	WSCT	WSET	
	SET WS		SET	\times	on& Testino Co
				Ser Little	S. C.

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5.4. MEASUREMENT INSTRUMENTS

	5.4. WEASU		\wedge				
	NAME OF EQUIPMENT	MANUFACTURER	MODEL	SERIAL NUMBER	Calibration Date	Calibration Due.	'5 C T
<	Test software		EZ-EMC	CON-03A	-	<u>X</u> -	
	Test software		MTS8310	WSCT	- /	VSCT	
	EMI Test Receiver	R&S	ESCI	100005	11/05/2024	11/04/2025	
	LISN	AFJ	LS16	16010222119	11/05/2024	11/04/2025	
	LISN(EUT)	Mestec	AN3016	04/10040	11/05/2024	11/04/2025	'S E T
<	Universal Radio Communication Tester	R&S	CMU 200	1100.0008.02	11/05/2024	11/04/2025	
c i	Coaxial cable	Megalon	LMR400	N/A	11/05/2024	11/04/2025	
	GPIB cable	Megalon	GPIB	N/A	11/05/2024	11/04/2025	
	Spectrum Analyzer	R&S	FSU	100114	11/05/2024	11/04/2025	\wedge
	Pre Amplifier	H.P.ET	HP8447E 5 /	2945A02715	11/05/2024	11/04/2025	15 C T
	Pre-Amplifier	CDSI	PAP-1G18-38		11/05/2024	11/04/2025	
	Bi-log Antenna	SCHWARZBECK	VULB9168	01488	11/05/2024	11/04/2025	
5	9*6*6 Anechoic	ET V	VS CT L	W.S CT	11/05/2024	11/04/2025	
	Horn Antenna	COMPLIANCE ENGINEERING	CE18000		11/05/2024	11/04/2025	X
	Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-631	11/05/2024	11/04/2025	15 E T
_	Cable	TIME MICROWAVE	LMR-400	N-TYPE04	11/05/2024	11/04/2025	
	System-Controller	ccs	N/A	N/A	N.C.R	N.C.R	
4	Turn Table	ccs	/5//N/A	N/A	N.C.R	N.C.R	
	Antenna Tower	ccs	N/A	N/A	N.C.R	N.C.R	
	RF cable	Murata	MXHQ87WA300 0	-	11/05/2024	11/04/2025	
	Loop Antenna	EMCO	6502 W5 L	00042960	11/05/2024	11/04/2025	rs et
1	Horn Antenna	SCHWARZBECK	BBHA 9170	1123	11/05/2024	11/04/2025	
1	Power meter	Anritsu	ML2487A	6K00003613	11/05/2024	11/04/2025	
7	Power sensor	Anritsu	MX248XD	WSEI	11/05/2024	11/04/2025	
	Spectrum Analyzer	Keysight	N9010B	MY60241089	11/05/2024	11/04/2025	X

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Test Results and Measurement Data 6.

6.1. Antenna requirement

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Standard requirement:

FCC Part15 C Section 15.203 /247(c)

15.203 requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

15.247(c) (1)(i) requirement:

(i) Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.

E.U.T Antenna:

The Bluetooth antenna is a PCB Antenna. it meets the standards, and the best case gain of the antenna is 1.02dBi.

Please refer to the attachment "OHP-917" Internal Photo" for the antenna location

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Conducted Emission 6.2.

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	6.2.1. Test Specification 5 [T WSET WSET WS	L
X	Test Requirement:	FCC Part15 C Section 15.207	
'5 C T	Test Method: 5 [7]	ANSI C63.10:2014 W5 [T] W5 [T]	
	Frequency Range:	150 kHz to 30 MHz	<
	Receiver setup:	RBW=9 kHz, VBW=30 kHz, Sweep time=auto	
SET	Limits:	Frequency range (MHz) Limit (dBuV) Quasi-peak Average 0.15-0.5 66 to 56* 56 to 46* 0.5-5 56 46 5-30 60 50	
	\times	Reference Plane	<
	WSET WSE		L
SET	Test Setup: _{W5CT}	E.U.T AC power Test table/Insulation plane Remark E.U.T: Equipment Under Test	_
\overline{X}	WSET WSE	LiSN: Line Impedence Stabilization Network Test table height=0.8m Refer to item 4.1	Ľ
SET	WS CT	1. The E.U.T is connected to an adapter through a line	
<i>361</i>	WSET WSE	impedance stabilization network (L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment.	< C
SCT	Test Procedure:	power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs).	
	W5ET W5E	3. Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to	<
7		ANSI C63.10:2014 on conducted measurement	Grow

NA

Test Result:







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6.2.2. EUT OPERATING CONDITIONS

The EUT is working in the Normal link mode. All modes have been tested and normal link mode is worst.

Devices subject to Part 15 must be tested for all available U.S. voltages and frequencies (such as a nominal 120 VAC, 60 Hz and 240 VAC, 50 Hz) for which the device is capable of operation. So, The configuration 120 VAC, 60 Hz and 240 VAC, 50 Hz were tested respectively, but only the worst configuration (120 VAC, 60 Hz) shown here.

Test data:

Note: EUT is powered by batteries and cannot transmit normally while charging. This project does not require testing

WSET	W5 ET	WSET	WSCT	WSET
	\times	CT WS	$\langle \hspace{0.1cm} \hspace{0.1cm}$	$\langle \times \rangle$
WSET	W5 CT	WSCT	WSET	WSET
	SET WS	$\langle \hspace{0.2cm} \rangle$	$\langle \hspace{0.2cm} \rangle$	
WSET	WSET	WSCT	WSET	WSET
	SET WS	$\langle \hspace{0.2cm} \rangle$	$\langle \hspace{0.2cm} \rangle$	
WSET	WSET	WSCT	WSET	WSET
	SET WS	$\langle \hspace{0.2cm} \rangle$	$\langle \hspace{0.2cm} \hspace{0.2cm}$	
WSET	WSET	WSCT	WSET	WSCT October 19 Coloup (Shenzho)
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6.3. Conducted Output Power

6.3.1. Test Specification

FCC Part15 C Section 15.247 (b)(3)	
(0)(0)	
ANSI C63.10:2014	-
Section 15.247 (b) The maximum peak conducted output power of the intentional radiator shall not exceed the following: (1) For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band 0.125 watts.	W2
Spectrum Analyzer EUT	WZ
Transmitting mode with modulation	
Use the following spectrum analyzer settings: Span = approximately 5 times the 20 dB bandwidth, centered on a hopping channel RBW > the 20 dB bandwidth of the emission being measured VBW ≥ RBW Sweep = auto Detector function = peak Trace = max hold Allow the trace to stabilize. Use the marker-to-peak function to set the marker to the peak of the emission.	W
PASS	/
	Section 15.247 (b) The maximum peak conducted output power of the intentional radiator shall not exceed the following: (1) For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band 0.125 watts. Spectrum Analyzer Transmitting mode with modulation Use the following spectrum analyzer settings: Span = approximately 5 times the 20 dB bandwidth, centered on a hopping channel RBW > the 20 dB bandwidth of the emission being measured VBW ≥ RBW Sweep = auto Detector function = peak Trace = max hold Allow the trace to stabilize, Use the marker-to-peak function to set the marker to the peak of the emission.

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6.3.2. Test Data

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	GFSK mode							
	Test channel	Peak Output Power (dBm)	Limit (dBm)	Result				
0	Lowest	5.02	20.97	PASS				
1	Middle	5.51	20.97	PASS				
	Highest	5.63	20.97	PASS				

Pi/4DQPSK mode Peak Output Power Limit (dBm) Test channel Result (dBm) 5.46 20.97 PASS Lowest **PASS** Middle 5.96 20.97 **PASS** Highest 6.03 20.97

8DPSK mode Peak Output Power Test channel Limit (dBm) Result (dBm) 5.66 20.97 **PASS** Lowest Middle 6.17 20.97 **PASS** Highest 6.24 20.97 **PASS**

Test plots as follows:

	WSCT	WSET	W5 ET	W5 CT	WSET
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W5 C1







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WSET Report No.: WSCT-ANAB-R&E241200081A -BT Power 3-DH5 2480MHz Spectrum Analyzer 1 Swept SA SCPI + PNO: Fast Gate: Off IF Gain: Low Sig Track: Off Input Z: 50 Ω Corr CCorr Freq Ref: Int (S) #Atten: 30 dB Preamp: Off Avg Type: Log-Power Avg|Hold: 100/100 Trig: Free Run KEYSIGHT Input: RF 1 2 3 4 5 6 M W W W W Align: Auto PNNNNN Mkr1 2.479 934 GHz 1 Spectrum Ref LvI Offset 4.33 dB Ref Level 20.00 dBm 6.24 dBm Scale/Div 10 dB WS C Span 10.00 MHz Sweep 1.33 ms (10001 pts) Center 2.480000 GHz #Res BW 2.0 MHz #Video BW 6.0 MHz Jan 16, 2025 9:16:49 PM ? 噩 WSET ation& Test World ADD: Building A-B, Baoil'an Industrial Park, No.58 and 60, Tangtou Avenue, Shiyan Street, Bao'an District, Shenzhen City, Guangdong Province, China. 深圳世标检测认证股份有限公司

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Report No.: WSCT-ANAB-R&E241200081A -BT

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6.4. 20dB Occupy Bandwidth

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W5 CT

6.4.1. Test Specification

WSCT	Test Requirement:	FCC Part15 C Section 15.247 (a)(1)	
Z11-1-1-1	Test Method:	ANSI C63.10:2014	
	Limit:	N/A	\times
	Test Setup:	Spectrum Analyzer EUT	W5ET°
WSET	Test Mode:	Transmitting mode with modulation	
WSET	Test Procedure:	 The testing follows ANSI C63.10:2014 Measurement Guidelines. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement. Set to the maximum power setting and enable the EUT transmit continuously. Use the following spectrum analyzer settings for 20dB Bandwidth measurement. Span = approximately 2 to 5 times the 20 dB bandwidth, centered on a hopping channel; 1%≤ 	WS CT
WSET		RBW≤5% of the 20 dB bandwidth; VBW≥3RBW; Sweep = auto; Detector function = peak; Trace = max hold. 5. Measure and record the results in the test report.	
	Test Result:	PASS	

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6.4.2.	Test	data
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	Test channel	-20	dB Occupy Band	dwidth (MHz)
	rest charmer	GFSK	π/4-DQPSK	8DPSK	Conclusion
	Lowest	0.955W5	1.33	1.317	PASS//5
1	Middle	0.956	1.312	1.307	PASS
/	Highest	0.952	1.295	1.299	PASS

Test plots as follows:

W5E7 W5 CI WS CT W5 C1

W5 E1 WS CT WS CI WS C1 WSE

> W5 CT W5 CT WS ET W5E1 W5C1

WS C W5 C W5 C W5 CI

W5 CI WS ET W5 CT W5 C1

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Carrier Frequencies Separation 6.5.

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X	Test Requirement:	FCC Part15 C Section 15.247 (a)(1)	
WSCT	Test Method:	ANSI C63.10:2014 W5 [T] W5 [T]	
	Limit:	Frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater.	WSET
WSET	Test Setup:	Spectrum Analyzer EUT W5.[7]	
	Test Mode:	Hopping mode	
WSET	Test Procedure:	 The testing follows ANSI C63.10:2014 Measurement Guidelines. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement. Set to the maximum power setting and enable the EUT transmit continuously. Enable the EUT hopping function. Use the following spectrum analyzer settings: Span = wide enough to capture the peaks of two adjacent channels; RBW is set to approximately 30% of the channel spacing, adjust as necessary to best identify the center of each individual channel; VBW≥RBW; Sweep = auto; Detector function = peak; Trace = max hold. Use the marker-delta function to determine the separation between the peaks of the adjacent channels. Record the value in report. 	WS ET
	Test Result:	PASS	

X	X	X	X	X	
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W5CT Report No.: WSCT-ANAB-R&E241200081A -BT



6.5.2. Test data

		AWS III		
7		GFSK mo	ode	
	Test channel	Carrier Frequencies Separation (MHz)	Limit (MHz)	Result
0	Lowest	0.988	0.637	PASS
	Middle	1.03	0.637	PASS
	Highest	1.004	0.635	PASS

	Pi/4 DQPSK mode				
0	Test channel	Carrier Frequencies Separation (MHz)	Limit (MHz)	Result	
	Lowest	1.004	0.887	PASS	
	Middle	0.992	0.875	PASS	
	Highest	W5 [T] 0.996	0.863	5 CT PASS	

		8DPSK m	ode	
0	Test channel	Carrier Frequencies Separation (MHz)	Limit (MHz)	Result
	Lowest	0.986	0.878	PASS
	Middle	0.998	0.871	PASS
1	Highest	0.994	0.866	PASS

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W5CT"	WSET	WSET	WSET	W5CT°

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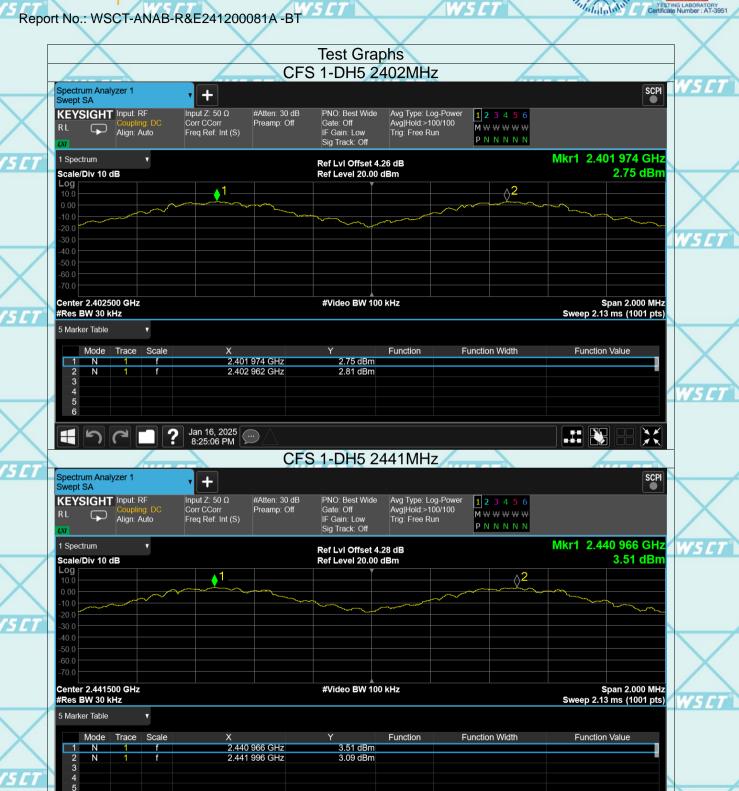
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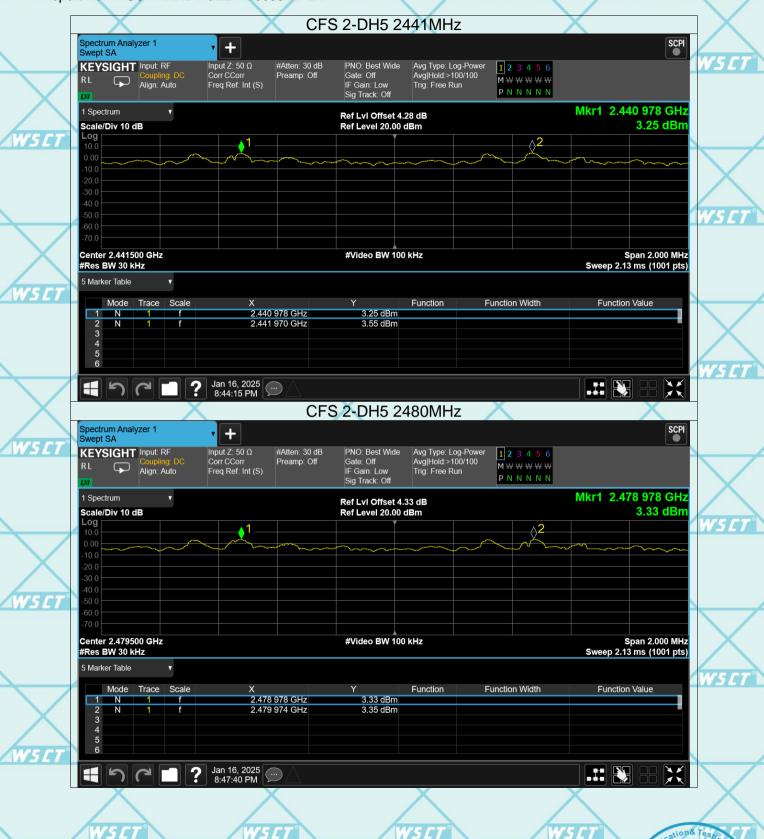
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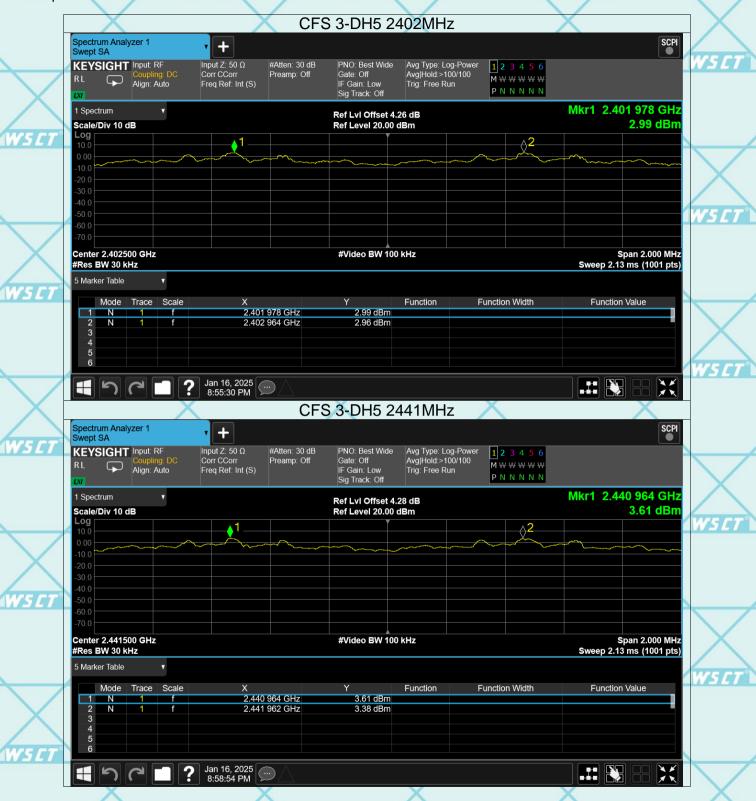




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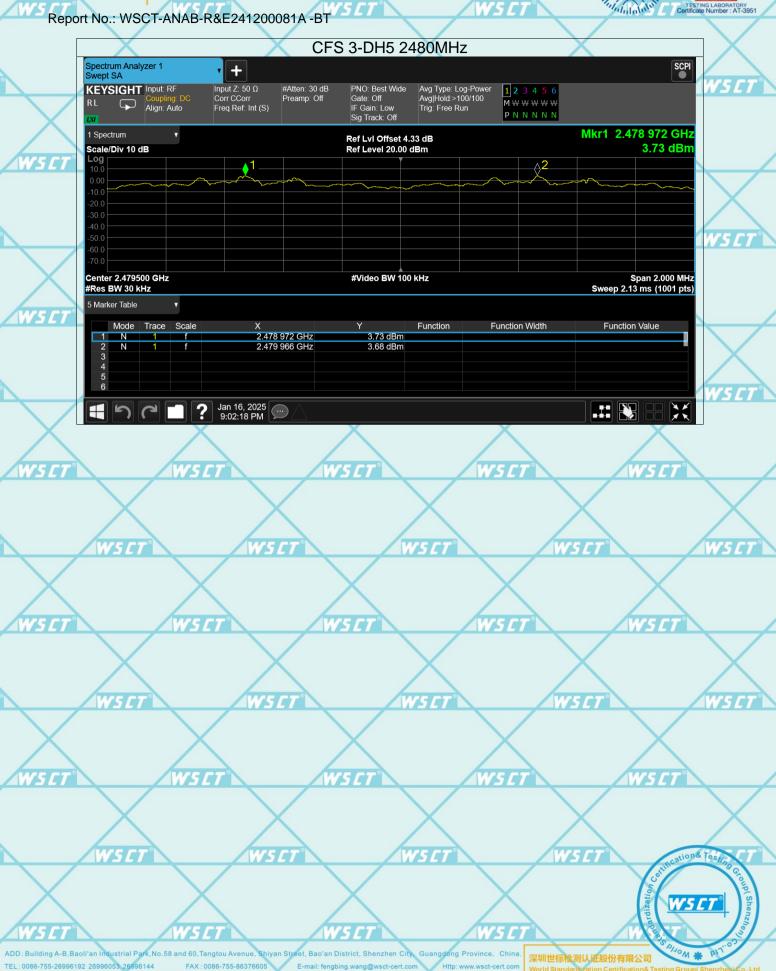
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W5CT

6.6. Hopping Channel Number

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6.6.1. Test Specification

WSET	Test Requirement:	FCC Part15 C Section 15.247 (a)(1)	
ZW36/	Test Method:	ANSI C63.10:2014	
	Limit:	Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels.	\angle
WSET	Test Setup:	Spectrum Analyzer EUT	WS CT
	Test Mode:	Hopping mode	$\overline{}$
WSET	Test Procedure:	 The testing follows ANSI C63.10:2014 Measurement Guidelines. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement. Set to the maximum power setting and enable the EUT transmit continuously. Enable the EUT hopping function. Use the following spectrum analyzer settings: Span = the frequency band of operation; set the RBW to less than 30% of the channel spacing or the 20 dB bandwidth, whichever is smaller; VBW≥RBW; Sweep = auto; Detector function = peak; Trace = max hold. The number of hopping frequency used is defined as 	WS CT
	Test Result:	the number of total channel. 7. Record the measurement data in report. PASS	WSET
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WSET

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6.6.2. Test data

_	Mode	Hopping channel numbers	Limit	Result	W5
	GFSK, P/4-DQPSK, 8DPSK	79	15	PASS	

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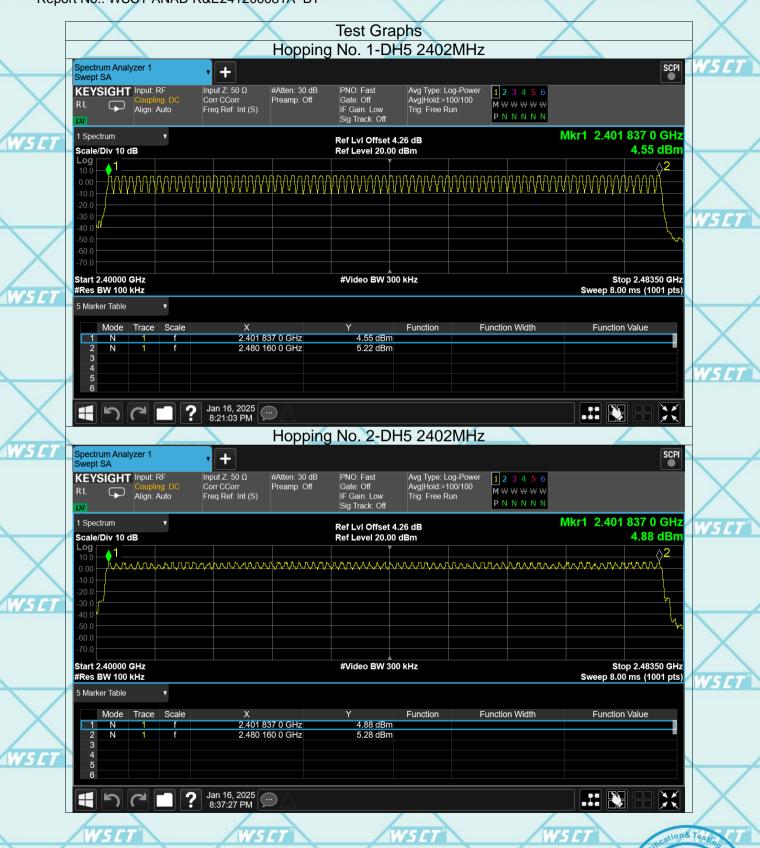
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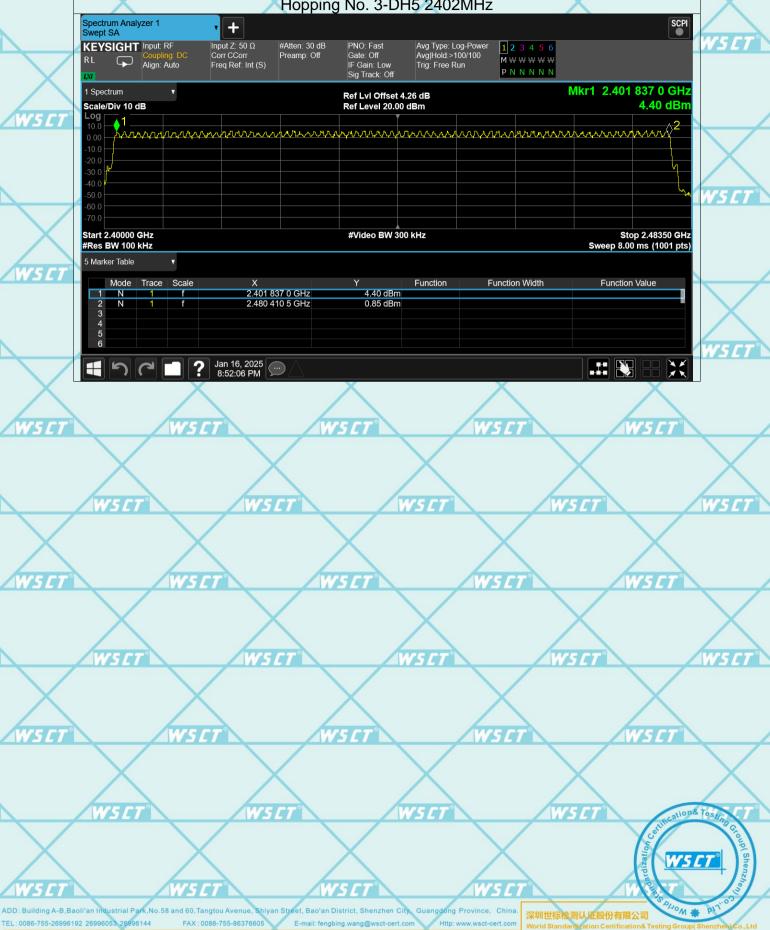


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6.7. Dwell Time

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X	Test Requirement:	FCC Part15 C Section 15.247 (a)(1)	
WSCT	Test Method:	ANSI C63.10:2014 W5 [T] W5 [T]	
	Limit:	The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.	W5 E
X	Test Setup:	Spectrum Analyzer EUT	
WSET	Test Mode:	Hopping mode WSET WSET	
WSCT	Test Procedure:	 The testing follows ANSI C63.10:2014 Measurement Guidelines. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement. Set to the maximum power setting and enable the EUT transmit continuously. Enable the EUT hopping function. Use the following spectrum analyzer settings: Span = zero span, centered on a hopping channel; RBW shall be ≤ channel spacing and where possible RBW should be set >> 1 / T, where T is the expected dwell time per channel; VBW≥RBW; Sweep = as necessary to capture the entire dwell time per hopping channel; Detector function = peak; Trace = max hold. Measure and record the results in the test report. 	WSE
	Test Result:	PASS	
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Mode	Frequency	Pulse Time	Total Dwell Time	Burst	Period Time	Limit	Verdict
	(MHz)	(ms)	(ms)	Count	(ms)	(ms)	
1-DH1	2402	0.382	120.712	316	31600	400	Pass
1-DH1	2441	0.381	121.158	318	31600	400	Pass
1-DH1	2480	0.382	120.712	316	31600	400	Pass
1-DH3	2402	1.639	263.879	161	31600	400	Pass
1-DH3	2441	1.638	244.062	149	31600	400	Pass
1-DH3	2480	1.639	255.684	156	31600	400	Pass
1-DH5	2402	2.887	334.892	116	31600	400	Pass
1-DH5	2441	2.888	306.128	106	31600	400	Pass
1-DH5	2480	2.887	320.457	111	31600	400	Pass

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Note: 1. In normal mode, hopping rate is 1600 hops/s with 6 slots in 79 hopping channels.

For DH1, With channel hopping rate (1600/2/79) in Occupancy Time Limit (0.4×79) (s), Hops Over Occupancy Time comes to $(1600/2/79) \times (0.4 \times 79) = 320$ hops

For DH3, With channel hopping rate (1600 / 4 / 79) in Occupancy Time Limit (0.4 x 79) (s), Hops Over Occupancy Time comes to $(1600 / 4 / 79) \times (0.4 \times 79) = 160$ hops

For DH5, With channel hopping rate (1600 / 6 / 79) in Occupancy Time Limit (0.4 x 79) (s), Hops Over

Occupancy Time comes to $(1600 / 6 / 79) \times (0.4 \times 79) = 106.67$ hops

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2. Dwell Time(s) = Hops Over Occupancy Time (hops) x Package Transfer Time

Test plots as follows:

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