AWS CT



WSET

TEST REPORT

FCC ID: 2ADYY-S6

Product: Wireless Speaker

WSET"

Model No.: S6

Trade Mark: TECNO

Report No.: WSCT-ANAB-R&E241100068A-BT

Issued Date: 25 December 2024

Issued for:

W5 C

TECNO MOBILE LIMITED FLAT N 16/F BLOCK B UNIVERSAL INDUSTRIAL CENTRE 19-25 W5 C SHAN MEI STREET FOTAN NT HONGKONG

WSET

Issued By:

WSCI

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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7379

WSET

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World Standardization Certification & Testing Group (Shenzhen) Co., ltd.



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$\overline{}$	WSCT WSCT WSCT WSCT
X	\times \times \times \times
W5 CT	WSET WSET WSET



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Test Certification

Wireless Speaker **Product:**

WSCT

Model No.:

S6

Trade Mark:

TECNO

TECNO MOBILE LIMITED

Applicant:

FLAT N 16/F BLOCK B UNIVERSAL INDUSTRIAL CENTRE

19-25 SHAN MEI STREET FOTAN NT HONGKONG

Manufacturer:

TECNO MOBILE LIMITED FLAT N 16/F BLOCK B UNIVERSAL INDUSTRIAL CENTRE

19-25 SHAN MEI STREET FOTAN NT HONGKONG

Date of Test:

12 December 2024 to 25 December 2024

Applicable Standards:

FCC CFR Title 47 Part 15 Subpart C Section 15.247

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, which was tested. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

WSCT

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Tested By:

Checked By:

(Wang Xiang)

(Chen Xu)

Approved By:

Date: 2

(Li Huaibi)

WSIT

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WSET

WSCT

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Test Result Summary 2.

	We can	TACC CT	Wee er	7
/	Requirement	CFR 47 Section	Result	1
	Antenna Requirement	§15.203/§15.247 (c)	PASS	
7°	AC Power Line Conducted Emission	\\ \begin{align*} \text{ \text{ \text{ \text{ \text{ \text{ \text{ \text{ \text{ \text{ \text{ \text{ \text{ \text{ \qqq \	PASS	1
_	Conducted Peak Output W5 [7] Power W5 [§15.247 (b)(1) §2.1046	W5 L PASS	V
	20dB Occupied Bandwidth	§15.247 (a)(1) §2.1049	PASS	
	Carrier Frequencies Separation	§15.247 (a)(1)	PASS	1
	Hopping Channel Number	§15.247 (a)(1)	W5 C PASS	1
/	Dwell Time	§15.247 (a)(1)	PASS	
7	Radiated Emission	§15.205/§15.209 W-§2.1053, §2.1057 W5 ET	PASS _{V5ET}	_
	Band Edge	§15.247(d) §2.1051, §2.1057	PASS	4

Note:

- 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.

W5 C1 WS ET W5 CT W5 E

W5CT

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EUT Description 3.

	Product Name:	Wireless Speaker ws cr	V5 CT
\times	Model :	S6	
WSET	Trade Mark:	TECNO	
ZVEL	Operation Frequency:	2402MHz~2480MHz	
	Channel Separation:	1MHz	\times
	Number of Channel:	797 WSET WSET	V5 ET
\times	Modulation Type:	GFSK, π/4-DQPSK, 8-DPSK	
WSET	Modulation Technology:	FHSS WSET WSET WSET	
	Antenna Type:	PCB Antenna	\times
	Antenna Gain:	-0.68dBi	NS CT
WSET	Operating Voltage	Rechargeable Li-ion Battery: JLC18650 Nominal Voltage:7.3V Rated Capacity:2600mAh Rated Enregy:18.98Wh	
	Remark:	Limited Charge Voltage:5.6V N/A.	X

WSCI	WSC	WSCT	WSET	WSCT	
	WSET	WSET	WSET	WSET WSET	
X				We cz.	

W5CT WSET W5 CT W5 E1





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

						, -		
	Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
	MO5 <i>C1</i>	2402MHz	V20 [7	2422MHz	40 [2442MHz	605	7 2462MHz
	1	2403MHz	21	2423MHz	41	2443MHz	61	2463MHz
0	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
_	_W19	2421MHz	4 39 <i>C</i> 7	2441MHz	159 C	2461MHz	W5 E	7 -
/	Domark:	Channal 0 2	0 279 ha	vo boon too	tod for C	ECK THAT	JDCK OL	JDCK /

Remark: Channel 0, 39 &78 have been tested for GFSK, π/4-DQPSK, 8DPSK

X	modulatio	n mode.	o aro navo i	ocon tootou i	or or or , r) Dar on,	X	
WSET		WSET		WSET	W	SCT°	W51	7
	WSET		WSET		SET		CT	WSCT
WSET		WSET		WS ET	W	SET	WS	7
	WSET		WSET		SET		ET	WSET
WSET		WSLT		WSCT	w	SET	WSI	
	WSCT		WSCT	W	SET	W.	ET	WSET
WSET		WSCT		WSCT	W	SET	WSI	
	WSET		WSET		SET		ET	ocations Test
WSET		WSCT		WSCT		SET	S dization Con	WSC7
ADD: Building A-B.B	aoli'an Industrial Park	,No.58 and 60,Tangtou Av					- 3	DISOM # DIT.OO

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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					
,esp.::e::e:	10.0.1.00.					

Test Mode:

Keep the EUT in continuous transmitting Engineering mode: 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

WS CT WS CT

ET WS CT

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

ANAB - Certificate Number: AT-3951

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

WSCT	WSET	WSET	WSET	WSLT
\times	ET WSE	$\langle \hspace{0.1cm} \rangle$	$\langle \hspace{0.1cm} \rangle$	
WSET	W5 CT	WSET	WSET	WSCT
\times	WS E	$\langle \hspace{0.1cm} \rangle$	$\langle \hspace{0.1cm} \rangle$	
WSET	WSCT	WSET	WSET	WSET
\times	CT WSC	$\langle \hspace{0.1cm} \rangle$	$\langle \hspace{0.1cm} \rangle$	
WSET	WSET	WSET	\times	X
\times	ET WSE	$\langle \hspace{0.1cm} \rangle$	A Sardisetion Co.	WSCT Pesting Group (Shenzher)

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'an Industrial Park, No.58 a

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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 %.

				<u> </u>
WSCT	No.	Item	MU	
	1	Conducted Emission Test	±3.2dB	\setminus
	2	RF power, conducted	±0.16dB	
	3	Spurious emissions, conducted	±0.21dB	W5 L
X	4	All emissions, radiated(<1GHz)	±4.7dB	
WSET	5	All emissions, radiated(>1GHz)	±4.7dB/5_7	
	6	Temperature	±0.5°C	\setminus
	7	Humidity	±2.0%	WE
	# 1 A MP # T			

WSET	W5 ET	WSET	W5	ET W	SET
W5		VS ET	WSET	WSCT	WSET
WSET	WSET	WSCI			SET
	ET V	VS ET	WSET	WSCT	WSCT
WSET	WSET	WSCI			SET
		WELT	WSCT	WSCT	sions To

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5.4. MEASUREMENT INSTRUMENTS

	J.4. WILAGO			\wedge			
_	NAME OF EQUIPMENT	MANUFACTURER	MODEL	SERIAL NUMBER	Calibration Date	Calibration Due.	'S C T
<	Test software		EZ-EMC	CON-03A	ı	X-	
C I	Test software		MTS8310	WSIT	- /	V5 [T	
	EMI Test Receiver	R&S	ESCI	100005	11/05/2024	11/04/2025	
	LISN	AFJ	LS16	16010222119	11/05/2024	11/04/2025	\times
	LISN(EUT)	Mestec	AN3016	04/10040	11/05/2024	11/04/2025	'S C T
<	Universal Radio Communication Tester	R&S	CMU 200	1100.0008.02	11/05/2024	11/04/2025	
C	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. <i>ET</i>	HP8447E 5 /	2945A02715	11/05/2024	11/04/2025	15 E T
	Pre-Amplifier	CDSI	PAP-1G18-38	-	11/05/2024	11/04/2025	
1	Bi-log Antenna	SCHWARZBECK	VULB9168	01488	11/05/2024	11/04/2025	
C	9*6*6 Anechoic	ET V	VS CT	W.S ET	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	/5 CT
	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	
C i	Turn Table	ccs	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	6502W51	7 00042960	11/05/2024	11/04/2025	rs et
1	Horn Antenna	SCHWARZBECK	BBHA 9170	1123	11/05/2024	11/04/2025	
	Power meter	Anritsu	ML2487A	6K00003613	11/05/2024	11/04/2025	
5	Power sensor	Anritsu	MX248XD	WSET	11/05/2024	11/04/2025	
	Spectrum Analyzer	Keysight	N9010B	MY60241089	11/05/2024	11/04/2025	X

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WS CT

WSLT

WSCT Start WSCT

W5ET

IWS CT

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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 -0.68dBi.

Please refer to the attachment "S6 Internal Photo" for the antenna location









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Conducted Emission 6.2.

	6.2.1. Test Specification	T WSET WSET	W5CT
X	Test Requirement:	FCC Part15 C Section 15.207	
SET	Test Method: 5 [7]	ANSI C63.10:2014 W5 ET W5 ET	
	Frequency Range:	150 kHz to 30 MHz	\times
	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	WSET
	\times \times	Reference Plane	X
	WSET WSE	40cm 80cm LISN	WSET
X	Test Setup: _{W5C7}	E.U.T AC power	
rs et °	WSET WSE	Receiver Remark E.U.T: Equipment Under Test LISN: Line Impedence Stabilization Network Test table height=0.8m	WSET
X	Test Mode:	Refer to item 4.1	
SET	WSET WSE	 The E.U.T is connected to an adapter through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH 	WSET
SET "	Test Procedure:	coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs).	
	WSET WSE	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	X
7		ANSI C63.10:2014 on conducted measurement	30 Gran

PASS

Test Result:

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6.2.2. EUT OPERATING CONDITIONS

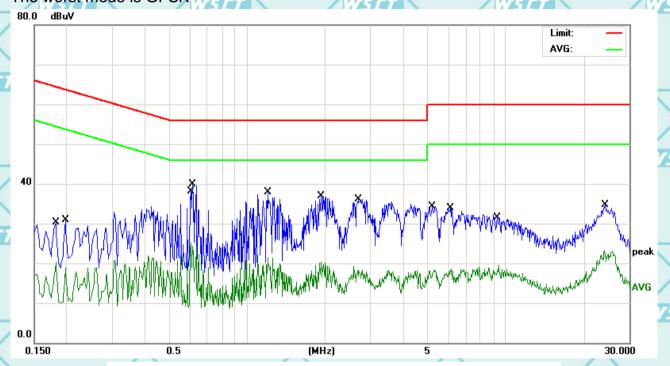
The EUT is working in the Normal link mode. All modes have been tested and normal link mode is

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:

Conducted Emission on Line Terminal of the power line (150 kHz to 30MHz)

The worst mode is GFSK



_	No. N	∕lk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		4
			MHz	dBuV	dΒ	dBuV	dBuV	dB	Detector	
	1		0.1819	7.42	12.92	20.34	54.39	-34.05	AVG	•
1	2		0.1980	17.97	12.92	30.89	63.69	-32.80	QP	
	3		0.6020	10.47	13.01	23.48	46.00	-22.52	AVG	_
	4 1	†	0.6140	26.89	13.01	39.90	56.00	-16.10	QP	•
	5		1.2020	24.89	12.98	37.87	56.00	-18.13	QP	
/	6		1.9380	7.73	12.66	20.39	46.00	-25.61	AVG	4
	7		2.6820	23.79	12.40	36.19	56.00	-19.81	QP	
	8		5.2180	22.16	12.21	34.37	60.00	-25.63	QP	•
	9		6.1579	6.46	12.11	18.57	50.00	-31.43	AVG	
	10		9.3580	7.51	11.90	19.41	50.00	-30.59	AVG	
	11	2	24.1180	10.56	12.80	23.36	50.00	-26.64	AVG	•
	12		24.1580	21.87	12.80	34.67	60.00	-25.33	QP	

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WSE.

W5E



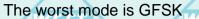


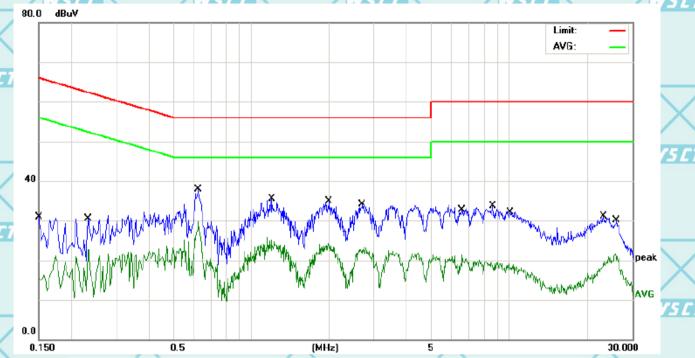


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W5CT°

Conducted Emission on Neutral Terminal of the power line (150 kHz to 30MHz)





		All I					-			
W5 ET	No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		C T
			MHz	dBuV	dB	dBuV	dBuV	dB	Detector	
	1		0.1500	18.02	12.91	30.93	65.99	-35.06	QP	
W/s	2		0.2340	9.86	12.92	22.78	52.30	-29.52	AVG	
\mathbf{X}	3		0.6260	24.97	13.01	37.98	56.00	-18.02	QP	
	4	*	0.6260	16.70	13.01	29.71	46.00	-16.29	AVG	
W5 CT	5		1.2020	22.61	12.98	35.59	56.00	-20.41	QP	C T
	6		1.9900	11.70	12.63	24.33	46.00	-21.67	AVG	
	7		2.6980	21.66	12.40	34.06	56.00	-21.94	QP	
W	8		6.5860	9.14	12.07	21.21	50.00	-28.79	AVG	
X	9		8.6020	21.74	11.94	33.68	60.00	-26.32	QP	
	10		9.9700	7.31	11.87	19.18	50.00	-30.82	AVG	

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WSCT WSCT

18.39

8.78

WSET

60.00 -28.91

50.00 -28.25

WSET Strate WSET

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W5CT"

6.3. Conducted Output Power

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6.3.1. Test Specification

Test Requirement:	FCC Part15 C Section 15.247 (b)(3)			
Test Method:	ANSI C63.10:2014			
Limit:	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.			
Test Setup:	Spectrum Analyzer EUT			
Test Mode:	Transmitting mode with modulation			
Test Procedure:	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.			
Test Result:	PASS			

W5 CT

W5CT

W5 CT

WSET

WELT

WSCT

WSET

WS CT

WSET

WSET*

W5CT°

WELT

WELT

4W5CT

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W5 CT

WSCT

W5 CT



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6.3.2. Test Data

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	GFSK mo	ode	
Test channel	Peak Output Power (dBm)	Limit (dBm)	Result
Lowest	1.81	20.97	PASS
Middle	2.03	20.97	PASS
Highest	2.38	20.97	PASS

π/4-DQPSK mode Peak Output Power Limit (dBm) Test channel Result (dBm) 2.93 20.97 PASS Lowest **PASS** Middle 3.16 20.97 **PASS** Highest 3.58 20.97

8DPSK mode Peak Output Power Test channel Limit (dBm) Result (dBm) 3.23 20.97 **PASS** Lowest Middle 3.44 20.97 **PASS** Highest 3.92 20.97 **PASS**

Test plots as follows:

	W5 CT	W5 ET	WSCT	WSET	WSET
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WSCT WSCT WSCT WSCT

WSCT WSCT WSCT WSCT

WSET WSET WSET

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W5CT°

WSCT







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W5 C1

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Dec 12, 2024 6:04:59 PM

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WSET



Report No.: WSCT-ANAB-R&E241100068A -BT

Power 2-DH5 2441MHz Spectrum Analyzer 1 Swept SA + Avg Type: Log-Power Avg|Hold: 100/100 Trig: Free Run Input Z: 50 Ω KEYSIGHT Input: RF #Atten: 30 dB 1 2 3 4 5 6 Gate: Off IF Gain: Low Corr CCorr Freq Ref: Int (S) Preamp: Off $M \leftrightarrow W \leftrightarrow W \leftrightarrow W$ Align: Auto Sig Track: Off Mkr1 2.440 838 GHz 1 Spectrum Ref Lvi Offset 4.28 dB Ref Level 20.00 dBm 3.16 dBm Scale/Div 10 dB #Video BW 6.0 MHz Span 10.00 MHz Sweep 1.33 ms (10001 pts) Center 2.441000 GHz #Res BW 2.0 MHz Dec 12, 2024 6:06:04 PM Power 2-DH5 2480MHz SCPI Spectrum Analyzer 1 + Input Z: 50 Ω #Atten: 30 dB Preamp: Off PNO: Fast Gate: Off IF Gain: Low Sig Track: Off KEYSIGHT Input: RF Avg Type: Log-Power Avg|Hold: 100/100 Corr CCorr Freq Ref: Int (S) M ₩ ₩ ₩ ₩ Align: Auto Trig: Free Run Mkr1 2.479 749 GHz Ref Lvl Offset 4.33 dB 3.58 dBm Scale/Div 10 dB Ref Level 20.00 dBm Ţĺ Center 2.480000 GHz #Res BW 2.0 MHz Span 10.00 MHz Sweep 1.33 ms (10001 pts) #Video BW 6.0 MHz

WS CT WS CT WS CT WS CT WS CT WS CT

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Span 10.00 MHz Sweep 1.33 ms (10001 pts)



WS C

Center 2.480000 GHz #Res BW 2.0 MHz

WSET Report No.: WSCT-ANAB-R&E241100068A -BT Power 3-DH5 2480MHz Spectrum Analyzer 1 Swept SA + PNO: Fast Gate: Off IF Gain: Low Sig Track: Off #Atten: 30 dB Preamp: Off Avg Type: Log-Power Avg|Hold: 100/100 Trig: Free Run Input Z: 50 Ω KEYSIGHT Input: RF 123456 Corr CCorr Freq Ref: Int (S) $M \Leftrightarrow W \Leftrightarrow W \Leftrightarrow$ Align: Auto Mkr1 2.479 949 GHz 1 Spectrum Ref Lvi Offset 4.33 dB Ref Level 20.00 dBm 3.92 dBm Scale/Div 10 dB

Dec 12, 2024 6:12:30 PM

#Video BW 6.0 MHz

WS ET

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W5 C1







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W5CT

6.4. 20dB Occupy Bandwidth

W5CT°

W5ET°

W5 CT

6.4.1. Test Specification

WSCT	Test Requirement:	FCC Part15 C Section 15.247 (a)(1)	
Z (Test Method:	ANSI C63.10:2014	
	Limit:	N/A	\times
X	Test Setup:	Spectrum Analyzer EUT	WS ET°
WS ET	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%≤ RBW≤5% of the 20 dB bandwidth; VBW≥3RBW; Sweep = auto; Detector function = peak; Trace = max hold. 	W5 CT
ZW2151	Test Result:	Measure and record the results in the test report. PASS	X
	MARCON MARCON	TO DATE OF STREET	ALARE E-O

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W5CT

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W5 C7

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W5CT

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W5

W5 CT





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W5CT"

6.4.2. Test data

	Toot obannal	-20	dB Occupy Band	dwidth (MHz	<u>:</u>)
	Test channel	GFSK	π/4-DQPSK	8DPSK	Conclusion
	Lowest	0.944ws	1.346	1.251	PASS//5
	Middle	1.034	1.269	1.257	PASS
-	Highest	1.005	1.339	1.277	PASS

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W5C1









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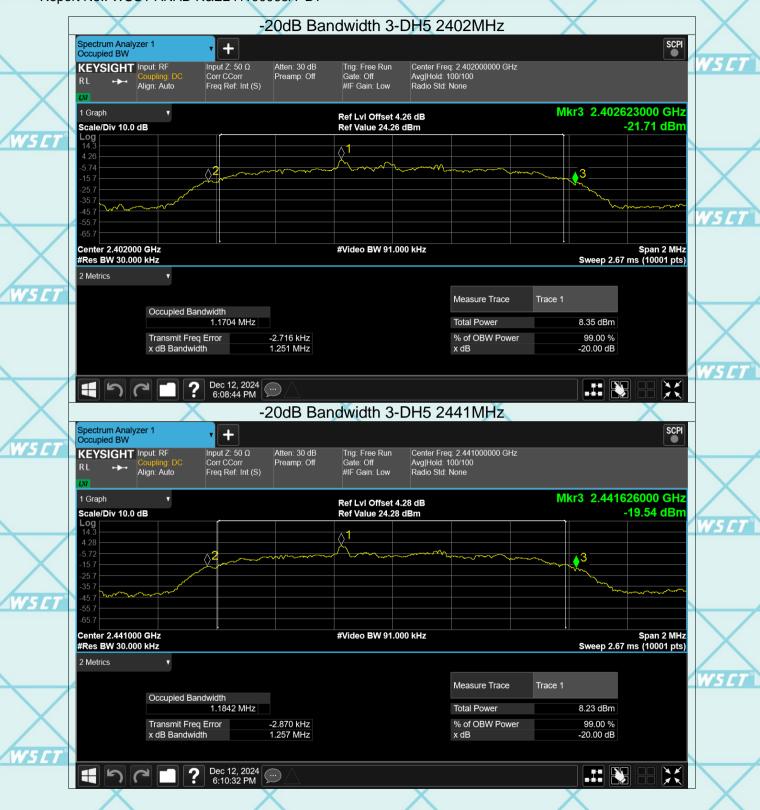
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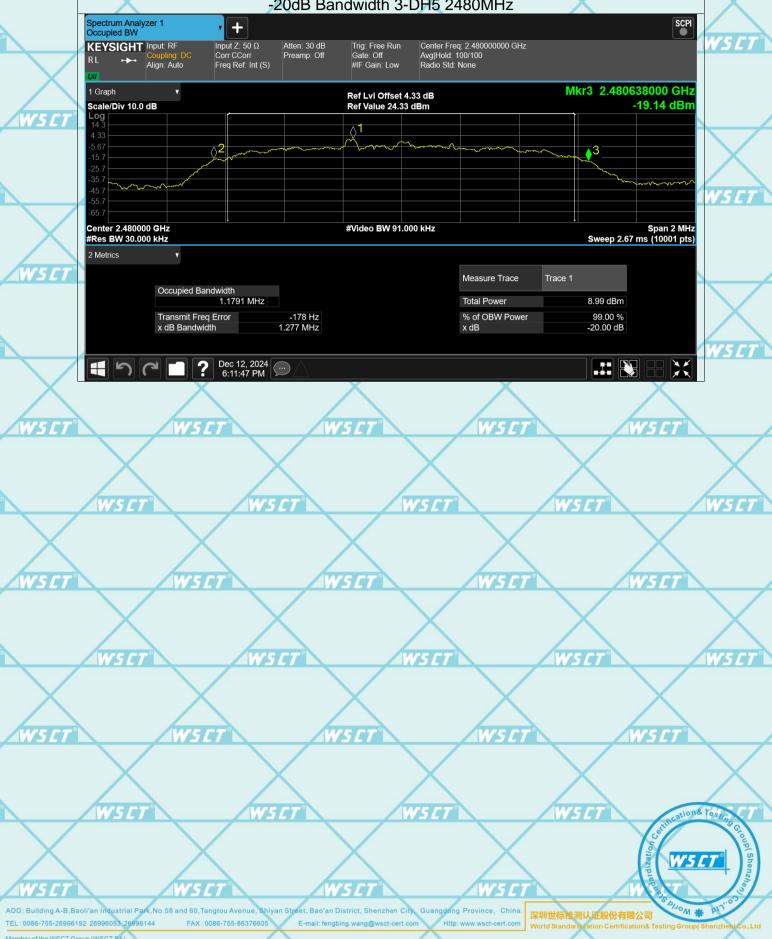
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6.5. Carrier Frequencies Separation

6.5.1. Test Specification	6.5.1.	Test :	Specific	cation
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W5CT"

W5 CT

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W5 CT

X	Test Requirement:	FCC Part15 C Section 15.247 (a)(1)	
WSET	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.	WSCT
WSET	Test Setup:	Spectrum Analyzer EUT W5ET	
	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. 	WSET
	Test Result:	PASS	

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W5 CT

6.5.2. Test data

NS ET

W5 C1

W5 CT

GFSK mode Carrier Frequencies Limit (MHz) Result Test channel Separation (MHz) 1.004 PASS Lowest 0.629 **PASS** Middle 1.01 0.689 Highest PASS 0.986 0.670

6/	Test channel	Carrier Frequencies Separation (MHz)	Limit (MHz)	Result
	Lowest	1.002	0.897	PASS
	Middle	1.022	0.846	PASS
_	Highest	W5 <i>ET</i> 1.154	'5 E 7 0.893 W	SET PASS

9	Test channel	Carrier Frequencies Separation (MHz)	Limit (MHz)	Result
	Lowest	1.01	0.834	PASS
	Middle	1.004	0.838	PASS
7	Highest	0.984	0.851	PASS

W5CT	W5 ET	W5ET*	WSET	W5 CT

WS CT WS CT WS CT WS CT	SET"
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W5CT"	WSET	WSCT	WSET	W5CT"

W5 C1 NSCI WS CI W5 E1

W5 C 7

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WS CI



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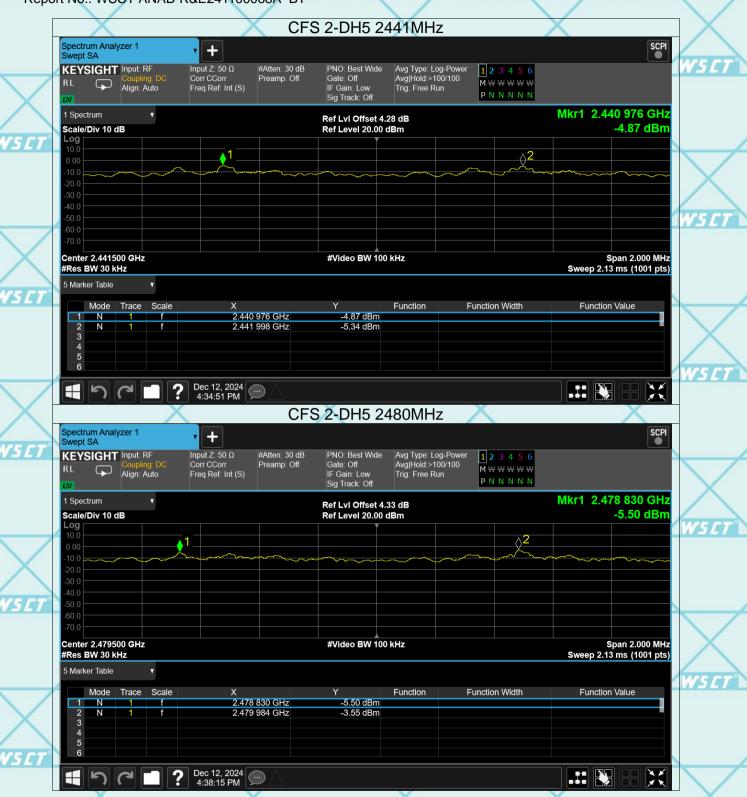




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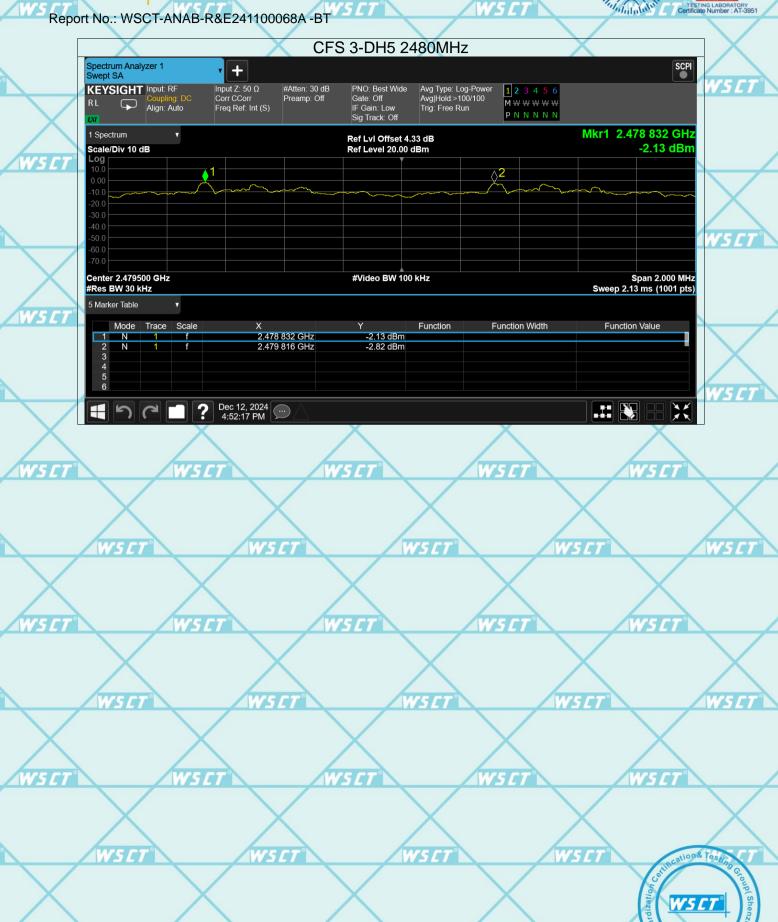
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W5 CT

Hopping Channel Number 6.6.

W5E7

W5C1

W5 C

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	
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 the number of total channel. 	WS CT
	Test Result:	7. Record the measurement data in report. PASS	WSET

W5CT

WSET

W5 CT

W5 C7

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W5CT







W5 CI

Report No.: WSCT-ANAB-R&E241100068A -BT

W5CT

6.6.2. Test data

W5 CT

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

Test plots as follows:

W5 CI W5 ET WSCI

W5CI W5 E1 W5 C7 W5 CT W5 CI

W5 E1 WS CI WS CI WSEI

WS ET

W5 C WSE W5 C W5C

WSEI

W5 CI WS ET W5 CT W5 C1

W5 CT

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W5 C1

W5E1

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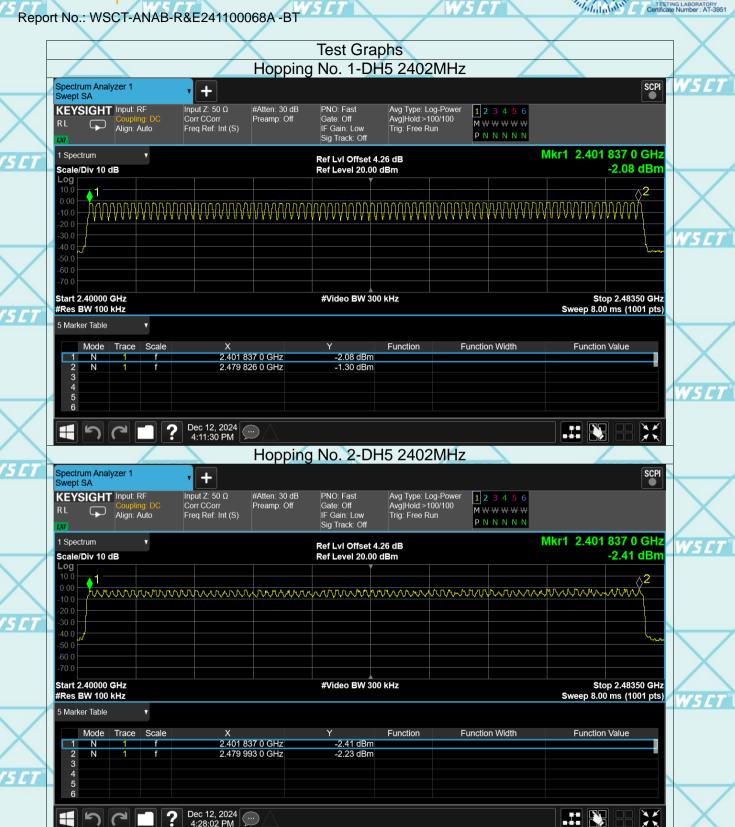
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W5 C1









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6.7. **Dwell Time**

6.7.1. Tes	t Speci	fication
0.7.1. 168	or obeci	lication

W5 CT

W5ET

X	Test Requirement:	FCC Part15 C Section 15.247 (a)(1)	
WSET	Test Method:	ANSI C63.10:2014 W5 [7] W5 [7]	
	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.	WSET
X	Test Setup:	Spectrum Analyzer EUT	
W5ET"	Test Mode:	Hopping mode W5 [7] W5 [7]	
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. 	WSCT
	Test Result:	PASS	
	Wall	Wall	WSLI

W5 CT

WSET

W5 CT

W5 ET

W5CT

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