



WSET

TEST REPORT

FCC ID: 2AXYP-OBS-382

Product: Portable Wireless Speaker

Model No.: OBS-382 Trade Mark: oraimo

Report No.: WSCT-A2LA-R&E240700033A-LE

Issued Date: 22 August 2024 5 7

Issued for:

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

Issued By:

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 /5/

TEL: +86-755-26996192

FAX: +86-755-86376605

W5CT

Note: T_This report shall not be reproduced except in full, without the written approval of World Standardization Certification & Testing Group (Shenzhen) Co., Ltd. This document may be altered or revised by World Standardization Certification & Testing Group (Shenzhen) Co., Ltd. personnel only, and shall be noted in the revision section of the document. The test results in the report only apply to the tested sample.

W5 C1







Report No.: WSCT-A2LA-R&E240700033A-LE

TABLE OF CONTENTS

W5 CT

	WSET WSET	WSET	W5 ET	W5ET*
1.	Test Certification			3
2.	Test Result Summary			4
<i>W5LT</i> 3.	EUT Description	T WS L	W5 L	5
4.	Genera Information	X	X	6
	4.1. TEST ENVIRONMENT AND MODE			65
	4.2. DESCRIPTION OF SUPPORT UNITS	/	/	6
5.	Facilities and Accreditations	,X	······	7
WSET	5.1. FACILITIES	7 W32	WSZ	7
	5.2. ACCREDITATIONS			
	5.3. MEASUREMENT UNCERTAINTY			
	5.4. MEASUREMENT INSTRUMENTS	WSET	WSET	WSET
6.			······	10
	6.1. ANTENNA REQUIREMENT			
WSCT	6.2. CONDUCTED EMISSION 6.3. CONDUCTED OUTPUT POWER	W5 L	7 W5C	
	6.4. EMISSION BANDWIDTH			
	6.5. POWER SPECTRAL DENSITY			20
	6.6. CONDUCTED BAND EDGE AND SPURIOUS I	EMISSION MEASUREMENT	WSET	W5 CT
	6.7. RADIATED SPURIOUS EMISSION MEASURE	MENT		36
WSET	WSET	T WS L	WSI	
	X	\times	X	X
	WS CT WS CT	W5 CT°	WSET	W5CT°
X	X	$\langle \hspace{0.1cm} \hspace{0.1cm}$	$\langle \hspace{1cm} \hspace{1cm}\hspace{1cm} \hspace{1cm}\hspace{1cm}\hspace{1cm}\hspace{1cm}\hspace{1cm}\hspace{1cm}\hspace{1cm}\hspace{1cm}\hspace{1cm}\hspace{1cm}\hspace{1cm}\hspace{1cm}1c$	
WSET	WSET WSE	7 W5 L	T WSE	7
	WSET	WSET	WSET	cation& Testing
			\[\sin^{\display} \]	Group
			rdizati	WS CT
WSET	WSET WSE	7 W5 L	7 M	WS CT
ADD: Building A-B,Baoli TEL: 0086-755-26996192	l'an Industrial Park,No.58 and 60,Tangtou Avenue, Shiyan Street, Bao'an District, 26996053 26996144 FAX: 0086-755-86376605 E-mail: fengbing.wang		深圳世标检测认证股份有限公司	NOW # PIT

VS ET WS

Page 2 of 46

WSET WSE





Report No.: WSCT-A2LA-R&E240700033A-LE

Test Certification

Portable Wireless Speaker Product:

Model No.: **OBS-382**

Trade Mark: oraimo

WSET

Applicant: ORAIMO TECHNOLOGY LIMITED

FLAT N 16/F BLOCK B UNIVERSAL INDUSTRIAL CENTRE

WSCT

WSET

19-25 SHAN MEI STREET FOTAN NT HONGKONG

Manufacturer: ORAIMO TECHNOLOGY LIMITED

FLAT N 16/F BLOCK B UNIVERSAL INDUSTRIAL CENTRE

19-25 SHAN MEI STREET FOTAN NT HONGKONG

Date of Test: 31 July 2024 to 22 August 2024

FCC CFR Title 47 Part 15 Subpart C Section 15.247 **Applicable**

Standards: KDB 558074 D01 DTS Meas Guidance v04

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.

War Kian Tested By:

(Wang Xiang)

Checked By:

(Chen Xu)

WSET

Approved By:

(Li Huaibi)

WSLT

WSET

WSET

WSET

WSET

W5 CT

深圳世标检测认证股份有限公司

Page 3 of 46

ac-MRA

Mahalalala



W5 C1

W5 CI

W5 C

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

Report No.: WSCT-A2LA-R&E240700033A-LE

W5CT

Test Result Summary 2.

	THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAM	THE CT	THE PARTY OF THE P	W5 C
/	Requirement	CFR 47 Section	Result	UP15
	Antenna requirement	§15.203/§15.247 (c)	PASS	
71	AC Power Line Conducted Emission	\(\begin{align*} \text{W5 LT} \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	NA WS ET	
_	Conducted Peak Output W5 [7] Power W5 [§15.247 (b)(3) §2.1046	W5 PASS	W5 C
	6dB Emission Bandwidth	§15.247 (a)(2) §2.1049	PASS	
	Power Spectral Density	§15.247 (e)	PASS	
	Band Edge WS D	1§5.247(d) §2.1051, §2.1057	PASS W5 CT	WSG
	Spurious Emission	§15.205/§15.209 §2.1053, §2.1057	PASS	

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.

WS E7

W5 E WSE W5 C

W5 C1 WS ET W5 CT W5 E1

Page 4 of 46

W5 C 7





Report No.: WSCT-A2LA-R&E240700033A-LE

W5CT

EUT Description 3.

W5 C

W5 E

W5 CT

W5 C1

	Product Name:	Portable Wireless Speaker W5.77	V5CT
/	Model :	OBS-382	
	Trade Mark:	oraimo	
1	Operation Frequency:	2402MHz~2480MHz	
	Channel Separation:	2MHz	X
	Number of Channel:	407 WSET WSET	VS ET
/	Modulation Technology:	GFSK	
7	Antenna Type:	PCB Antenna WSCT	
	Antenna Gain:	1.63dBi	
	Operating Voltage	Li-ion Battery: 18650 Voltage: 3.7V Rated Capacity: 1800mAh	VS ET
		Limited Charge Voltage: 4.2V	
1	Remark:	N/A.	

Operation Frequency each of channel

	Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
	MO- <i>ET</i>	2402MHz	M10 <i>ET</i>	2422MHz	20 [2442MHz	305 [2462MHz
	1	2404MHz	11	2424MHz	21	2444MHz	31	2464MHz
		X		X				
0	8	2418MHz	18	2438MHz	28	2458MHz	38	2478MHz
	9	2420MHz	19	2440MHz	29	2460MHz	39	2480MHz
	Remark: Channel 0, 19 & 39 have been tested.							

W5 ET

W5 CT

W5 ET

W5 E1

W5CT

W5CT

深圳世标检测认证股份有限公司

Page 5 of 46

W5 C1







Report No.: WSCT-A2LA-R&E240700033A-LE

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(The value of duty cycle is 98.46%) with Fully-charged battery.

The sample was placed (0.1m below 1GHz, 1.5m 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.

Equipment	Model No.	Serial No.	FCC ID	Trade Name
Adapter	XCU32	\times	1	/

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, 6dB Emission Bandwidth, Power Spectral Density, 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.

Page 6 of 46







Report No.: WSCT-A2LA-R&E240700033A-LE

ANDLI

5. Facilities and Accreditations

5.1. Facilities

WSCT[®] WSCT[®]

LT WS ET

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

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

	WSET	WSET	WS ET	W5 CT	WS CT"
WSI	$\langle \hspace{0.1cm} \rangle$	$\langle \hspace{0.2cm} \rangle$			TT /
	WSET	WSET	WSET	WSET	WSCT
WS	$\langle \hspace{0.1cm} \rangle$	$\langle \rangle$		$\langle \hspace{0.1cm} \rangle$	ET
	WSET	WSET	WSCT	WSET	WSET
WS	$\langle \hspace{0.1cm} \rangle$	$\langle \hspace{0.2cm} \rangle$			TET .
	WSET	WSET	WSET	\times	\times
W/51	$\langle \hspace{0.1cm} \rangle$	$\langle \rangle$		Activation (1)	WSCT Shear Strains of the Strains of

VS CT WS C

an Industrial Park, No.58 a

WSE

WSET WSE

ANAB
ANSI National Accreditation Boar



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

Report No.: WSCT-A2LA-R&E240700033A-LE

W5CT°

5.3. Measurement Uncertainty

The reported uncertainty of measurement y ± 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 %.

	No.	Item	MU	
W5 CT	1	Power Spectral Density	±3.2dB	
	2	Duty Cycle and Tx-Sequence and Tx-Gap	±1%	X
	3 _{W5}	Medium Utilisation Factor W5 [7]	±1.3%	W5 ET
	4	Occupied Channel Bandwidth	±2.4%	
	5	Transmitter Unwanted Emission in the out-of Band	±1.3%	
WS CT	6	Transmitter Unwanted Emissions in the Spurious Domain	±2.5%	
	7	Receiver Spurious Emissions	±2.5%	X
	8W5C	Conducted Emission Test W5 [7] W5	±3.2dB	W5 CT
\sim	9	RF power, conducted	±0.16dB	
Week	10	Spurious emissions, conducted	±0.21dB	
WSET [®]	11	All emissions, radiated(<1GHz)	±4.7dB	
	12	All emissions, radiated(>1GHz)	±4.7dB	X
	13 <i>75 L</i>	Temperature W5 [7] W5 [7] W5	±0.5°C	W5 ET
X	14	Humidity	±2.0%	

					X
X	X	V5 CT	WSCT	WSCT	WSET*
WSET	WSET	WSET®	WSET	WSET	

WSET WSET WSET

DD: Building A-B,Baoli'an Industrial Park,No.58 and 60, Tangtou Avenue, Shiyan Street, Bao'an District, Shenzhen City, Guangdong Province, China

DD: Building A-B,Baoil'an Industrial Park, No.58 and 60, Tangtou Avenue, Shiyan Street, Bao'an District, Shenzhen City, Guangdong Province, Ch L: 0086-755-26996192 26996053 26996144 FAX: 0086-755-86376605 E-mail: fengbing.wang@wsct-cert.com Http://www.wsct-cert.com 深圳世标检测认证股份有限公司 World Standard zation Certification & Testing Group(Shenzhen) Co.,Ltd

WSCT

SET

WSET

Page 8 of 46

WSCT

/W



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

W5CT°

ANAB
ANSI National Accreditation Board
A C C R E D I T E D
SOME FROM
TESTING LABORATORY
ACCREDITED
TESTING LABORATORY
ACCREDITED

Report No.: WSCT-A2LA-R&E240700033A-LE

5.4.MEASUREMENT INSTRUMENTS

	5.4. WIEASUREN	MENT INSTRUM	IEIVIO			a)	\wedge
	NAME OF EQUIPMENT	MANUFACTURER	MODEL	SERIAL NUMBER	Calibration Date	Calibration Due.	'S C T
	Test software		EZ-EMC	CON-03A	-	Χ-	
	Test software		MTS8310	WSCT	- /	75 CT	
	EMI Test Receiver	R&S	ESCI	100005	11/05/2023	11/04/2024	
	LISN	AFJ	LS16	16010222119	11/05/2023	11/04/2024	\times
	LISN(EUT)	Mestec	AN3016	04/10040	11/05/2023	11/04/2024	'5 E T
	Universal Radio Communication Tester	R&S	CMU 200	1100.0008.02	11/05/2023	11/04/2024	
5	Coaxial cable	Megalon	LMR400	N/A	11/05/2023	11/04/2024	
	GPIB cable	Megalon	GPIB	N/A	11/05/2023	11/04/2024	
	Spectrum Analyzer	R&S	FSU	100114	11/05/2023	11/04/2024	\wedge
	Pre Amplifier	IH.P. <i>ET</i>	HP8447E 5 /	2945A02715	11/05/2023	11/04/2024	15 C T
	Pre-Amplifier	CDSI	PAP-1G18-38		11/05/2023	11/04/2024	
	Bi-log Antenna	SCHWARZBECK	VULB9168	01488	11/05/2023	11/04/2024	
5	9*6*6 Anechoic	ET V	VSCT L	W.S ET	11/05/2023	11/04/2024	
	Horn Antenna	COMPLIANCE ENGINEERING	CE18000		11/05/2023	11/04/2024	X
	Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-631	11/05/2023	11/04/2024	15 E T
	Cable	TIME MICROWAVE	LMR-400	N-TYPE04	11/05/2023	11/04/2024	
	System-Controller	ccs	N/A	N/A	N.C.R	N.C.R	
	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	-	11/05/2023	11/04/2024	\times
	Loop Antenna	EMCO	6502W5L	00042960	11/05/2023	11/04/2024	/5 C T
1	Horn Antenna	SCHWARZBECK	BBHA 9170	1123	11/05/2023	11/04/2024	
	Power meter	Anritsu	ML2487A	6K00003613	11/05/2023	11/04/2024	
4	Power sensor	Anritsu	MX248XD	WSG	11/05/2023	11/04/2024	
	Spectrum Analyzer	Keysight	N9010B	MY60241089	11/05/2023	11/04/2024	X

W5CT

W5ET"

W5CT°

W5 CT

WS ET

WSCT

WS CT

WELT

awsct

DD: Building A-B,Baoil'an Industrial Park, No.58 and 60, Tangtou Avenue, Shiyan Street, Bao'an District, Shenzhen City, Guangdong Province, Chir EL: 0086-755-26996192 26996053 26996144 FAX: 0086-755-86376605 E-mail: fengbing.wang@wsct-cert.com Http://www.wsct-cert.co

深圳世标检测认证股份有限公司 World Standardization Certification& Testi

andardization Certification& Testing Group(Shenzhen) Co., Ltd

lember of the WSCT Group (WSCT SA)

Page 9 of 46

WSCT

W5 C





Report No.: WSCT-A2LA-R&E240700033A-LE

Test Results and Measurement Data

6.1. Antenna requirement

W5 CT

Standard requirement:

FCC Part15 C Section 15.203 /247(c)

15.203 requirement:

6.

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 1.63dBi.

Please refer to the attached 'Internal Photo' for the antenna location

Page 10 of 46







Report No.: WSCT-A2LA-R&E240700033A-LE

WSCT I

6.2. Conducted Emission

6.2.1. Test Specification 15 57

WSET |

WSET

W5CT

9.	2.1. Test Specification		WELTER
X	Test Requirement:	FCC Part15 C Section 15.207	
W5 ET	Test Method: 5 77	ANSI C63.10:2014 W5 [T] W5 [T]	
	Frequency Range:	150 kHz to 30 MHz	\times
	Receiver setup:	RBW=9 kHz, VBW=30 kHz, Sweep time=auto	W5CT
WSET	Limits:	Frequency range (MHz) Limit (dBuV) 0.15-0.5 Ge to 56* 56 to 46* 0.5-5 56 46 5-30 60 50	
	X X	Reference Plane	X
	WSET WSE	40cm LISN	WSCT
WSCT	Test Setup: WSCT WSC	Remark E.U.T Adapter Remark E.U.T: Equipment Under Test LISN: Line Impedence Stabilization Network Test table height=0.8m	W5 ET
\times	Test Mode:	Charging + Transmitting Mode	
W5 CT	WSET	1. The E.U.T is connected to an adapter through a line impedance stabilization network (L.I.S.N.). This	
	WSET WSE	provides a 50ohm/50uH coupling impedance for the measuring equipment. 2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH	X
WSET	Test Procedure:	coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs). 3. Both sides of A.C. line are checked for maximum.	
	WSET	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 ANSI C63.10:2014 on conducted measurement.	X
	Test Result:	N/A	Group

WS CT

W5C7

W5 C7

4W5 C

DD: Building A-B,Baoli'an Industrial Park,No.58 and 60, Tangtou Avenue, Shiyan Street, Bao'an District, Shenzhen City, Guangdong Province, Chin EL: 0086-755-26996192 26996053 26996144 FAX: 0086-755-86376605 E-mail: fengbing.wang@wsct-cert.com Http: www.wsct-cert.coi 深圳世标检测认证股份有限公司 ** p17

Page 11 of 46

SCT WSC





Report No.: WSCT-A2LA-R&E240700033A-LE

W5CT°

6.2.2. EUT OPERATING CONDITIONS

WSET WSET WSET WSET WSET

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 work to be a second with the charging with the charge with the charging with the charging with the charge with the charge

Wald Wald

WSCT WSCT WSCT WSCT

WSET WSET WSET WSET

WSCT WSCT WSCT WSCT

WSCT WSCT WSCT WSCT WSCT

WSCT WSCT WSCT WSCT

WSET WSET WSET

WSCT WSCT WSCT

ADD: Building A-B,Baoll'an Industrial Park,No.58 and 60,Tangtou Avenue, Shiyan Street, Bao'an District, Shenzhen City, Guangdong Province, Chini TEL: 0086-755-26996192 26996053 26996144 FAX: 0086-755-86376605 E-mail: fengbing.wang@wsct-cert.com Http://www.wsct-cert.com

深圳世标检测认证股份有限公司
World Standardization Certification& Testing Group(Shenzhen) Co.,Ltd

WS CT WS

Page 12 of 46

W5 ET WS ET

W5C1







Report No.: WSCT-A2LA-R&E240700033A-LE

6.3. Conducted Output Power

6.3.1. Test Specification W5 ET

W5E7

W5C1

X	Test Requirement:	FCC Part15 C Section 15.247 (b)(3)	
WSET	Test Method:	KDB558074 W5 [T] W5 [T]	
	Limit:	30dBm	\times
	Test Setup:	Construe Analysis EUT	W5 ET
WSET	Test Mode:	Defendants 4.4	
WSET	Test Procedure:	 The testing follows the Measurement Procedure of FCC KDB No. 558074 DTS D01 Meas. Guidance v04. Set spectrum analyzer as following: 5 7 a) Set the RBW ≥ DTS bandwidth. b) Set VBW ≥ 3 x RBW. c) Set span ≥ 3 x RBW d) Sweep time = auto couple. 	WSCT
		 a) Sweep time = auto couple. e) Detector = peak. f) Trace mode = max hold. g) Allow trace to fully stabilize. h) Use peak marker function to determine the peak amplitude level. 	WSCT
X	Test Result:	PASS	
AVERTON	NAC CE	Week Week	

-	WSET	WSET	WSET	WS ET"	WSET
WSCT	WS	ET A	WSCT	WSCT	WSET

Page 13 of 46



W5 C

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





W5 CI

Report No.: WSCT-A2LA-R&E240700033A-LE

W5 CT

6.3.2. Test Data

_		BLE 1M						
	Test channel	Maximum Conducted Output Power (dBm)	Limit (dBm)	Result				
1	Lowest	2.48	30.00	PASS				
	Middle	2.62	30.00	PASS				
	Highest	1.95	30.00	PASS				

7		BLE 2M	1		W5
	Test channel	Maximum Conducted Output Power (dBm)	Limit (dBm)	Result	
7	Lowest	2.415.7	30.00	PASS	
	Middle	2.55	30.00	PASS	
	Highest	1.89	30.00	PASS	

Test plots as follows:

WSET WSET WSET WSET	WSET WSET WSET WSET
---------------------	---------------------

WSCT	W5 ET	WSET	WSET	W5 CT

W5CT°	W5CT /	W5CT	WS ET	WS CT
-------	--------	------	-------	-------

WSCT WSCT WSCT WSCT WSCT

W5CT°	WSCT	WSET	WSET	W5CT"

	W5CT [®]	W5 CT	W5 CT°	W5 CT°	vc ₃	tion& Testin	
7			WSET	/	Still	S Ground	

ADD: Building A-B, Baoli'an Industrial Park, No. 58 and 60, Tangtou Avenue

Page 14 of 46

W5CT







Report No.: WSCT-A2LA-R&E240700033A-LE

6.4. Emission Bandwidth

6.4.1. Test Specification 45 CT

W5 CI

W5 CT

W5C1

X	Test Requirement:	FCC Part15 C Section 15.247 (a)(2)	
W5 ET	Test Method:	KDB558074 W5 ET W5 ET	
	Limit:	>500kHz	\setminus
	Test Setup:		V5 ET
		Spectrum Analyzer EUT	
WSET	Test Mode:	Refer to item 4.1	
		The testing follows FCC KDB Publication No. 558074 DTS D01 Meas. Guidance v04. Set to the maximum power setting and enable the EUT transmit continuously.	WSCT
WSCT	Test Procedure:	3. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. Set the Video bandwidth (VBW) = 300 kHz. In order to make an accurate measurement. The 6dB bandwidth must	
WSLT	Tot Docult	be greater than 500 kHz. 4. Measure and record the results in the test report.	X
	Test Result:	PASS	WELL
	11713	THE STATE OF THE S	EL7A

W5 C1 W5 C7 W5 CT

W5 ET

W5 ET

W5 ET

W5 E1

W5 CT

Page 15 of 46

W5 ET

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

W5 CT





Report No.: WSCT-A2LA-R&E240700033A-LE

W5CT°

W5 E1

W5 [T]

6.4.2. Test data

В	LE 1M	WELT	VEFT	WE	CT°	W
$\overline{}$	Test channel	6dB E	mission I	Bandwidth (kHz)		LA.M
X	rest channel	BT LE mode		Limit	Result	
WS CT	Lowest	0.506		>500k	W5 CT	
	Middle	0.501		>500k	PASS	
	Highest	0.501		>500k		

BLE 2M WSCT 6dB Emission Bandwidth (kHz) Test channel BT LE mode Limit Result W5 C1 Lowest 0.854 >500k WS CT Middle 0.861 >500k **PASS** 0.849 >500k Highest

Test plots as follows:

WS CT

		Y		
_			A	\wedge

	W5CT°	MACE CT.	DACE ET	MACCE CT.
NSCT [®]		W5CT*	WSCT	WSCT

W5 CT

W5 CT	W5 CT	W5 CT	W5 CT	W5 ET
-------	-------	-------	-------	-------

W5CT"	WSET	WSET	WSET	W5CT°

	W5CT	W5 CT	WSET	WSET	003	tion& Testin	
7				/ 5	S.LII	3 Grou	

D-Building & B. Baoli'an Industrial Park No. 58 and 60 Tangtou Avenue Shiyan Steet Baolan District Shenzhen City Guangdong Province China

ADD: Building A-B,Baoli'an Industrial Park,No.58 and 60, langtou Avenue, Shiyan Street, Bao'an District, Shenzhen City, Guangdong Province, China. IEL: 0086-755-26996192 26996053 26996144 FAX: 0086-755-86376605 E-mail: fengbing.wang@wsct-cert.com Http: www.wsct-cert.com

China. 深圳世际检测认证股份有限公司 World Standard ration Certification& Testing Group (Shenzhen) Co.,Lt

WSET WSE

Page 16 of 46

WS CT WS CT

WSCI





W5 CI



Report No.: WSCT-A2LA-R&E240700033A-LE



ADD: Building A-B,Baoli'an Industrial Park,No.58 and 60,Tangtou Avenue, Shiyan Street, Bao'an District, Shenzhen City, Guangdong Province, China. TEL: 0086-755-26996192 26996053 26996144 FAX: 0086-755-86376605 E-mail: fengbing.wang@wsct-cert.com Http://www.wsct-cert.com

深圳世标检测认证股份有限公司
World Standard Zation Certification & Testing Group (Shenzhen) Co.,Ltd

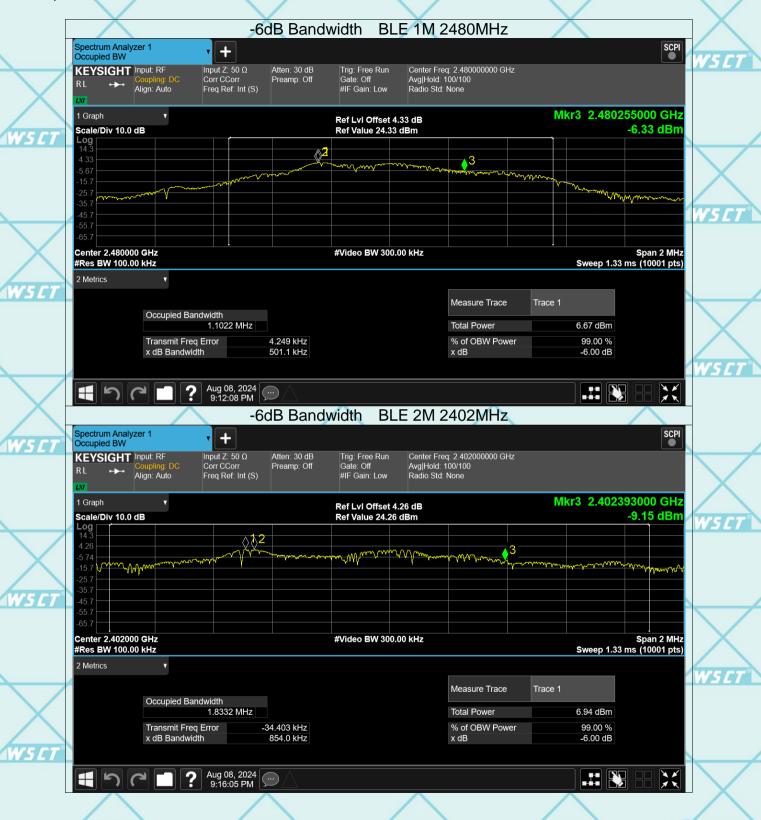
VS CI







Report No.: WSCT-A2LA-R&E240700033A-LE



ADD: Building A-B, Baoil'an Industrial Park, No.58 and 60, Tangtou Avenue, Shiyan Street, Bao'an District, Shenzhen City, Guangdong Province, China. TEL: 0086-755-26996192 26996053 26996144 FAX: 0086-755-86376605

10M # 深圳世标检测认证股份有限公司

15 Ci

Page 18 of 46





WSET



Report No.: WSCT-A2LA-R&E240700033A-LE



ADD: Building A-B,Baoll'an Industrial Park,No.58 and 60,Tangtou Avenue, Shiyan Street, Bao'an District, Shenzhen City, Guangdong Province, China. TEL: 0086-755-26996192 26996053 26996144 FAX: 0086-755-86376605 E-mail: fengbing.wang@wsct-cert.com Http: www.wsct-cert.com

深圳世标检测认证股份有限公司 World Standard Zation Certification& Testing Group(Shenzhen) Co.,Lt

15 Ci

Page 19 of 46

WSET

WSCT





W5CT



Report No.: WSCT-A2LA-R&E240700033A-LE

6.5. Power Spectral Density

6.5.1. Test Specification

14.5	SCT WSCT WSCT	W51
Test Requirement:	FCC Part15 C Section 15.247 (e)	
Test Method:	KDB558074	
Limit:	The peak power spectral density shall not be greater than 8dBm in any 3kHz band at any time interval of continuous transmission.	\searrow
Test Setup:		W5
	Spectrum Analyzer EUT	
Test Mode:	Refer to item 4.1	
Test Procedure:	 The testing follows Measurement Procedure 10.2 Method PKPSD of FCC KDB Publication No.558074 D01 DTS Meas. Guidance v04 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. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW): 3 kHz ≤ RBW ≤ 100 kHz. Video bandwidth VBW ≥ 3 x RBW. In order to make an accurate measurement, set the span to 1.5 times DTS Channel Bandwidth. (6dB BW) Detector = peak, Sweep time = auto couple, Trace mode = max hold, Allow trace to fully stabilize. Use the peak marker function to determine the maximum power level. Measure and record the results in the test report. 	W5
Test Result:	PASS	

W5CT WSET W5 CT W5 E1

Page 20 of 46

W5 CT

W5CT

W5 CT





Report No.: WSCT-A2LA-R&E240700033A-LE

6.5.2. Test data

Test plots as follows:

W5C

W5 C1

	Test channel	Power Spectral D	ensity (dBm/3kl	Hz)	W51
	rest chamilei	BLE 1M	Limit	Result	
	Lowest	-17.00	8 dBm/3kHz		
7 °	Middle	V-16.87	8 dBm/3kHz	PASS	
	Highest	-18.15	8 dBm/3kHz		X

Test channel		Power Spectral D	ensity (dBm/3kF	Hz)	Í
	rest channel	BLE 2M	Limit	Result	
	Lowest	-20.03	8 dBm/3kHz		
	Middle	V-19.91	8 dBm/3kHz	PASS	A
	Highest	-20.54	8 dBm/3kHz		

WSET	WSEI	WSC	WSE	7 W	SCT
	WSET	WSET	WSET	WSET	WSET
$\overline{}$					

W5ET°	W5CT°	WSET	WSET [®]	W5 ET"
	\times	\times	X	\times

W5 CT	W5CT°	WSET	W5 CT°	acation& Testin

ADD: Building A-B, Baoli'an Industrial Park, No. 58 and 60, Tangtou Avenue

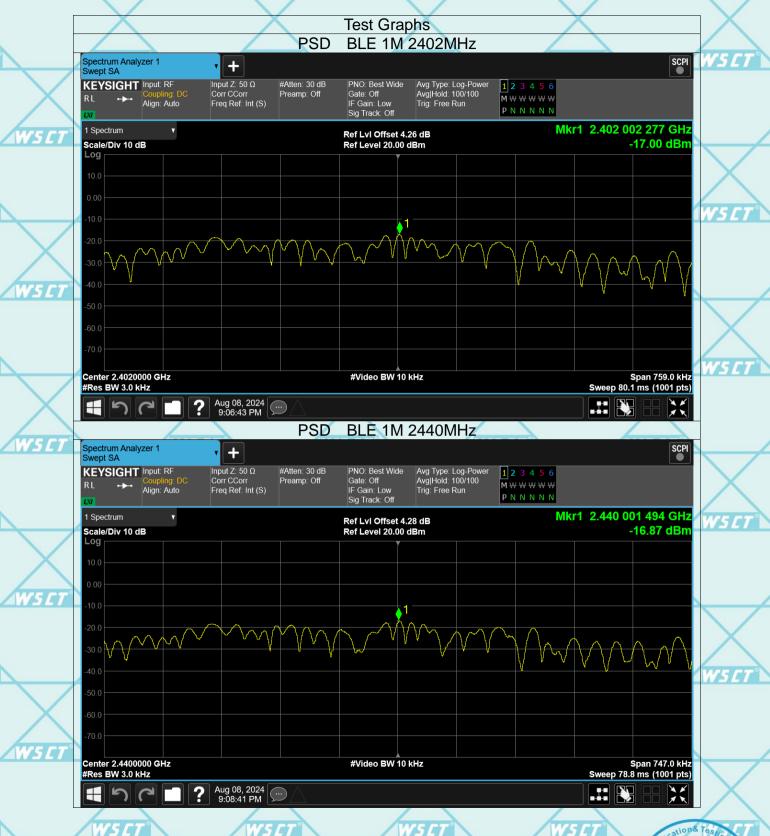
FAX: 0086-755-86376605







Report No.: WSCT-A2LA-R&E240700033A-LE



ADD: Building A-B,Baoll'an Industrial Park,No.58 and 60,Tangtou Avenue, Shiyan Street, Bao'an District, Shenzhen City, Guangdong Province, China.

TEL: 0086-755-26996192 26996053 26996144 FAX: 0086-755-86376605 E-mail: fengbing.wang@wsct-cert.com Http: www.wsct-cert.com

深圳世标检测认证股份有限公司 World Standard zation Certification & Testing Group (Shenzhen) Co.,Lt

Page 22 of 46

SET WSD

W5 C

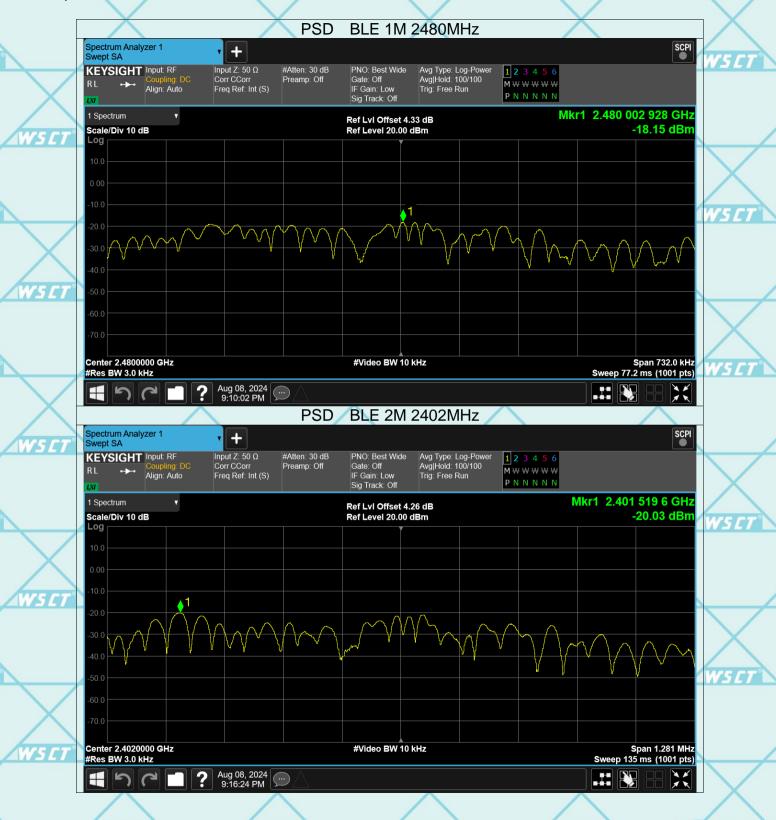
WSCT







Report No.: WSCT-A2LA-R&E240700033A-LE



ADD: Building A-B, Baoli'an Industrial Park, No.58 and 60, Tangtou Avenue, Shiyan Street, Bao'an District, Shenzhen City, Guangdong Province, China. TEL: 0086-755-26996192 26996053 26996144 FAX: 0086-755-86376605 E-mail: fengbing.wang@wsct-cert.com Http://www.wsct-cert.co

MON # 深圳世标检测认证股份有限公司

Page 23 of 46



1*W5 [T* 1



WSET



Report No.: WSCT-A2LA-R&E240700033A-LE



ADD: Building A-B, Baoli'an Industrial Park, No.58 and 60, Tangtou Avenue, Shiyan Street, Bao'an District, Shenzhen City, Guangdong Province, China. TEL: 0086-755-26996192 26998053 26996144 FAX: 0086-755-86376605 E-mail: fengbing.wang@wsct-cert.com Http://www.wsct-cert.com

深圳世标检测认证股份有限公司
World Standard Zation Certification & Testing Group (Shenzhen) Co., Ltd.

15 C

7 ago 2

SET WS

Page 24 of 46

WSET







Report No.: WSCT-A2LA-R&E240700033A-LE

6.6. Conducted Band Edge and Spurious Emission Measurement

6.6.1. Test Specification

0.	6.1. rest specification 5	T WSET	WSET	W5CT"
\times	Test Requirement:	FCC Part15 C Section 15.247 (c	(k	
W5ET	Test Method:	KDB558074	7//-	
X	Limit:	In any 100 kHz bandwidth our frequency band, the emission non-restricted bands shall be at 30dB relative to the maximum IRF conducted measurement which fall in the restricted band 15.205(a), must also comply will limits specified in Section 15.205	ons which fall in the tenuated at least 20 dB / PSD level in 100 kHz by and radiated emissions ls, as defined in Section th the radiated emission	WSET
WS ET	Test Setup:	Spectrum Analyzer	EUT	WSCT
	Test Mode:	Refer to item 4.1		
WS CT	Test Procedure:	 The RF output of EUT was conanalyzer by RF cable and attives compensated to the result was considered and with a continuously. Set to the maximum power set and transmit continuously. Set RBW = 100 kHz, VBW=30 Unwanted Emissions measult bandwidth outside of the autishall be attenuated by at least maximum in-band peak PSD maximum peak conducted or used. If the transmitter compensation power limits based on the use a time interval, the attenuation paragraph shall be 30 dB instantial frequency against the limit line in the organism of the limit line in the or	tenuator. The path loss ults for each etting and enable the considerable the considerable the considerable the considerable to the considerable the considerable to th	WSET
	Test Result:	PASS	X	X

AWSLI

SCT

W5CT°

WSET Stations Testing Colours (Shenzing)

W5 CT

W5 C7

awsct

DD: Building A-B, Baoli'an Industrial Park, No.58 and 60, Tangtou Avenue, Shiyan Street, Bao'an District, Shenzhen City, Guangdong Province. Chini EL: 0086-755-26996192 26996053 26996144 FAX: 0086-755-86376605 E-mail: fengbing.wang@wsct-cert.com Http: www.wsct-cert.com

深圳世标检测认证股份有限公司
World Standard ration Certification& Testing Group(Shenzhen) Co., Ltd

Gloup (WSC 1 DA

Page 25 of 46

WSCT

World Standardization Certification & Testing Group (Shenzhen) Co., ltd. Report No.: WSCT-A2LA-R&E240700033A-LE





Test Data Band Edge



TEL: 0086-755-26996192 26996053 26996144

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

Morlo

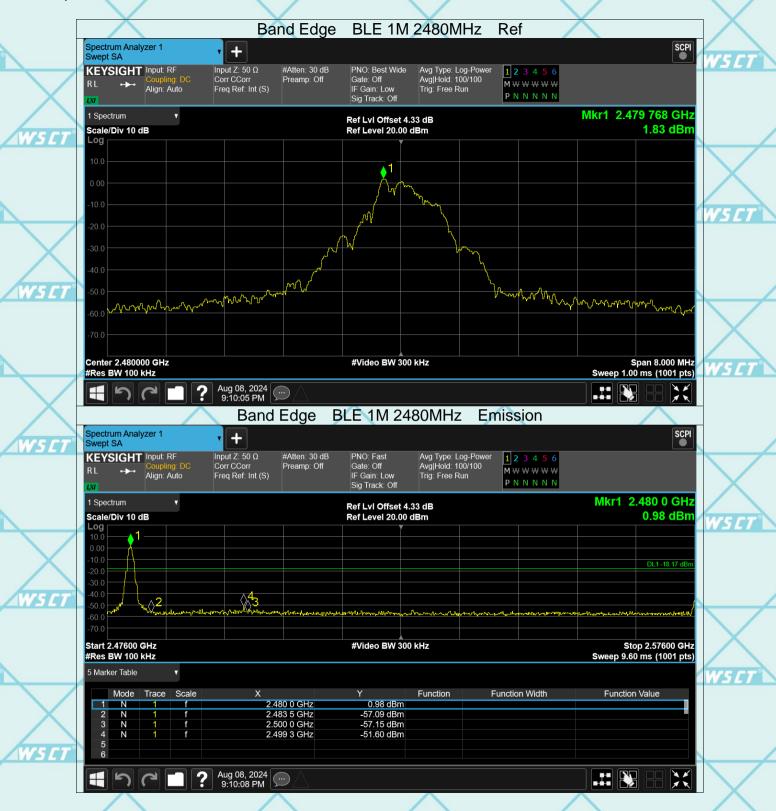
FAX: 0086-755-86376605







Report No.: WSCT-A2LA-R&E240700033A-LE



ADD: Building A-B, Baoil'an Industrial Park, No.58 and 60, Tangtou Avenue, Shiyan Street, Bao'an District, Shenzhen City, Guangdong Province, China. TEL: 0086-755-26996192 26996053 26996144 FAX: 0086-755-86376605 Http://www.wsct-cert.co

MON # 深圳世标检测认证股份有限公司

VS CI

Page 27 of 46





CCREDITED

Report No.: WSCT-A2LA-R&E240700033A-LE



ADD: Building A-B, Baoil'an Industrial Park, No.58 and 60, Tangtou Avenue, Shiyan Street, Bao'an District, Shenzhen City, Guangdong Province, China. TEL: 0086-755-26996192 26996053 26996144 FAX: 0086-755-86376605 Http://www.wsct-cert.co

MON # 深圳世标检测认证股份有限公司

VS CI







Report No.: WSCT-A2LA-R&E240700033A-LE



ADD: Building A-B,Baoli'an Industrial Park,No.58 and 60,Tangtou Avenue, Shiyan Street, Bao'an District, Shenzhen City, Guangdong Province, China. TEL: 0086-755-26996192 26996053 26996144 FAX: 0086-755-86376605 E-mail: fengbing.wang@wsct-cert.com Http://www.wsct-cert.com

深圳世标检测认证股份有限公司
World Standardization Certification& Testing Group(Shenzhen) Co.,Lt

VS CI

SET WSE

W5

WSCT

World Standardization Certification & Testing Group (Shenzhen) Co..ltd. Report No.: WSCT-A2LA-R&E240700033A-LE Conducted RF Spurious Emission







ADD: Building A-B, Baoli'an Industrial Park, No.58 and 60, Tangtou Avenue, Shiyan Street, Bao'an District, Shenzhen City, Guangdong Province, China. TEL: 0086-755-26996192 26996053 26996144 FAX: 0086-755-86376605 Http://www.wsct-cert.com

Morlo 深圳世标检测认证股份有限公司

Page 30 of 46





ANSI National Accreditation Board
A C C R E D I T E D

SOME FROST
TESTING LABORATORY

Report No.: WSCT-A2LA-R&E240700033A-LE

x. Spurious BLE 1M 2440MHz Ref



ADD: Building A-B, Baoli'an Industrial Park, No.58 and 60, Tangtou Avenue, Shiyan Street, Bao'an District, Shenzhen City, Guangdong Province, Chin TEL: 0086-755-26996192 26996053 26996144 FAX: 0086-755-86376605 E-mail: fengbing.wang@wsct-cert.com Http://www.wsct-cert.com

深圳世标检测认证股份有限公司
World Standard Zation Certification& Testing Group (Shenzhen) Co.,Ltd.

15 Ci





CCREDITED

Report No.: WSCT-A2LA-R&E240700033A-LE

Tx. Spurious BLE 1M 2480MHz Ref SCPI Spectrum Analyzer 1 + Input Z: 50 Ω Corr CCorr #Atten: 30 dB Preamp: Off PNO: Best Wide Gate: Off Avg Type: Log-Power Avg|Hold: 100/100 KEYSIGHT Input: RF 1 2 3 4 5 6 ____ M ₩ ₩ ₩ ₩ Align: Auto Freq Ref: Int (S) IF Gain: Low Sig Track: Off Trig: Free Run 1 Spectrum Mkr1 2.479 761 5 GHz Ref LvI Offset 4.33 dB Ref Level 20.00 dBm Scale/Div 10 dB 1.70 dBm **∮**1 ա\Ն.Ա.ակ 15 C Center 2.4800000 GHz #Res BW 100 kHz Span 1.500 MHz Sweep 1.00 ms (1001 pts) #Video BW 300 kHz Aug 08, 2024 9:10:13 PM BLE 1M 2480MHz **Emission** Tx. Spurious Spectrum Analyzer 1 Swept SA SCPI + Avg Type: Log-Power Avg|Hold: 10/10 Trig: Free Run Input Z: 50 Ω #Atten: 30 dB PNO: Fast KEYSIGHT Input: RF 1 2 3 4 5 6 Corr CCorr Freq Ref: Int (S) Preamp: Off Gate: Off IF Gain: Low Sig Track: Off M ₩ ₩ ₩ ₩ Align: Auto PNNNNN Mkr1 2.480 2 GHz 1 Spectrum Ref Lvl Offset 4.33 dB 0.27 dBm Scale/Div 10 dB Ref Level 20.00 dBm **∆**5 Start 30 MHz #Video BW 300 kHz Stop 26.50 GHz #Res BW 100 kHz Sweep ~2.53 s (30001 pts) 5 Marker Table Function Width Function Value Mode Scale Function 2.480 2 GHz 4.959 6 GHz 4.959 6 GHz 7.439 8 GHz 9.735 7 GHz 0.27 dBm -44.32 dBm -44.32 dBm -48.96 dBm N 2 3 4 5 6 N N -52.52 dBm

ADD: Building A-B, Baoil'an Industrial Park, No.58 and 60, Tangtou Avenue, Shiyan Street, Bao'an District, Shenzhen City, Guangdong Province, China. TEL: 0086-755-26996192 26996053 26996144 FAX: 0086-755-86376605 Http://www.wsct-cert.co

Aug 08, 2024 9:10:44 PM

MON # 深圳世标检测认证股份有限公司

Page 32 of 46

VS CI





ANSI National Accreditation Board
A C C R E D I T E D

SOILE FROSE
TESTING LABORATORY

Report No.: WSCT-A2LA-R&E240700033A-LE



ADD: Building A-B, Baoll'an Industrial Park, No.58 and 60, Tangtou Avenue, Shiyan Street, Bao'an District, Shenzhen City, Guangdong Province, China.
TEL: 0086-755-26996192 26996053 26996144 FAX: 0086-755-86376605 E-mail: fengbing.wang@wsct-cert.com Http://www.wsct-cert.com

深圳世标检测认证股份有限公司 World Standard Fation Certification& Testing Group(Shenzhen) Co.,Lt

Page 33 of 46

SCT WSC

W5 CT

WSE







Report No.: WSCT-A2LA-R&E240700033A-LE



ADD: Building A-B, Baoil'an Industrial Park, No.58 and 60, Tangtou Avenue, Shiyan Street, Bao'an District, Shenzhen City, Guangdong Province, China. MON #

TEL: 0086-755-26996192 26996053 26996144 FAX: 0086-755-86376605 Http://www.wsct-cert.co

Aug 08, 2024 9:18:28 PM

深圳世标检测认证股份有限公司

VS CI





ANSI National Accreditation Board
A C C R E D I T E D

SOILE 17028
TESTING LABORATORY

Report No.: WSCT-A2LA-R&E240700033A-LE



ADD: Building A-B,Baoll'an Industrial Park,No.58 and 60,Tangtou Avenue, Shiyan Street, Bao'an District, Shenzhen City, Guangdong Province, China.

TEL: 0086-755-26996192 26996053 26996144 FAX: 0086-755-86376605 E-mail: fengbing.wang@wsct-cert.com Http: www.wsct-cert.com

深圳世标检测认证股份有限公司
World Standard Zation Certification & Testing Group (Shenzhen) Co., Ltc

ation& Tesus

WELT

Page 35 of 46

WSCT

SCT.







Report No.: WSCT-A2LA-R&E240700033A-LE

W5CT"

6.7. Radiated Spurious Emission Measurement

	The Part of the Column 2 is		
6.7.1.	Test S	pecification	on Value

WSET

WS CT

W5 CT

6.	7.1. Test Specification	WSL	WS		IN 2 L I
					7
	Test Requirement:	FCC Part15 C Section	on 15.209		
WSET	Test Method:	ANSI C63.10:2014	WSCT	WSCT	
	Frequency Range:	9 kHz to 25 GHz			
	Measurement Distance:	3 m			
	Antenna Polarization: V5 [7]	Horizontal & Vertical	7 W5	CT°	W5 E1
	Operation mode:	Refer to item 4.1			
WSET	W5 ET	Frequency Detector 9kHz- 150kHz Quasi-pe		Remark Quasi-peak Value	
W J E /	Receiver Setup:	150kHz- Quasi-pe 30MHz		Quasi-peak Value	
		30MHz-1GHz Quasi-pe		Quasi-peak Value Peak Value	
	WSCT WSCT	Above 1GHz Peak	1MHz 10Hz	Average Value	W5 C1
\times	X	Frequency	Field Strength (microvolts/meter)	Measurement Distance (meters)	
WSET	WSET	0.009-0.490	2400/F(KHz)	300	
112/5/	111111111111111111111111111111111111111	0.490-1.705 1.705-30	24000/F(KHz) 30	30	
	\times	30-88	100	3	\times
		88-216	150	3	
	Limit: WS E1	216-960	200	3	W5 CT
		Above 960	500	3	
WSCT	WSET	II Fraguency I	ield Strength crovolts/meter) Measure Distan (meter)	nce Detector	
	\times	Above 1GHz	500 3 5000 3	Average Peak	\bigvee
	WSET WSET	For radiated emission	ns below 30MHz		WSCI
X		Distance = 3m		Computer	
			Pre	-Amplifier	

WZLI

Test setup:

WSCT[®] WSC

Distance = 3m

Computer

Pre -Amplifier

Receiver

Ground Plane

30MHz to 1GHz

WSCT

ADD: Building A-B,Baoil'an Industrial Park,No.58 and 60,Tangtou Avenue, Shiyan Street, Bao'an District, Shenzhen City, Guangdong Province, Chi FEL: 0086-755-26996192 26996053 26996144 FAX: 0086-755-86376605 E-mail: fengbing.wang@wsct-cert.com Http://www.wsct-cert.com 深圳世标检测认证股份有限公司

Page 36 of 46

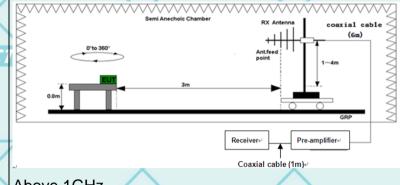
SET WSE

WSCT





Report No.: WSCT-A2LA-R&E240700033A-LE



Above 1GHz

Coaxial cable (1m)

Test Procedure:

15 E

 For the radiated emission test below 1GHz: The EUT was placed on a turntable with 0.1 meter above ground. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high PASS filter are used for the test in order to get better signal level. For the radiated emission test above 1GHz: Place the measurement antenna on a turntable with 1.5 meter above ground, which is away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at

the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final

measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 mys above the ground or reference ground plane

Page 37 of 46

Mahalalala



TESTING LABORATORY Certificate Number : AT-3951

WS ET

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

Report No.: WSCT-A2LA-R&E240700033A-LE

WSCT

		2. Corrected Reading: Antenna Factor + Cable Loss +
		Read Level - Preamp Factor = Level
		3. For measurement below 1GHz, If the emission level
\rightarrow	WSET WSE	of the EUT measured by the peak detector is 3 dB
		lower than the applicable limit, the peak emission
		level will be reported. Otherwise, the emission
		measurement will be repeated using the quasi-peak
W5CT"	W5 CT	detector and reported.
		4. Use the following spectrum analyzer settings:
	X	(1) Span shall wide enough to fully capture the
		emission being measured;
	WS CT WS CT	(2) Set RBW=100 kHz for f < 1 GHz; VBW ≥RBW;
		Sweep = auto; Detector function = peak; Trace =
X		max hold;
		(3) Set RBW = 1 MHz, VBW= 3MHz for f 1 GHz
W5CT"	W5 CT°	for peak measurement.
		For average measurement: VBW = 10 Hz, when
		duty cycle is no less than 98 percent. VBW ≥ 1/T,
	WSCT WSC	when duty cycle is less than 98 percent where T is
		the minimum transmission duration over which the
X	X	transmitter is on and is transmitting at its maximum
		power control level for the tested mode of operation.
W5 CT	Test mode: ws [7]	Refer to section 4.1 for details
	Test results:	PASS

Note: Freq. = Emission frequency in MHz Reading level (dB μ V) = Receiver reading Corr. Factor (dB) = Attenuation factor + Cable loss Level (dB μ V) = Reading level (dB μ V) + Corr. Factor (dB) Limit (dB μ V) = Limit stated in standard Margin (dB) = Level (dB μ V) - Limits (dB μ V)

WS CT WS CT

W5 CT

WSCT WSCT WSCT WSCT WSCT

WSCT WSCT WSCT WSCT WSCT

WSCT WSCT WSCT WSCT

WSET WSET WSET

WS CT WS CT WS CT WS CT WS CT Street, Bao'an District, Shenzhen City, Guangdong Province. China.

ADD: Building A-B, Baoil'an Industrial Park, No.58 and 60, Tangtou Avenue, Shiyan Street, Bao'an District, Shenzhen City, Guangdong Province, China TEL: 0086-755-26996192 26996053 26996144 FAX: 0086-755-86376605 E-mail: fengbing.wang@wsct-cert.com Http://www.wsct-cert.com

深圳世标检测认证股份有限公司
World Standard ration Certification& Testing Group (Shenzhen) Co.,Ltc

W5 C1

WS CT WS C

Page 38 of 46

38 01 46

WSCT

ation& Testin

W5 C 7







Report No.: WSCT-A2LA-R&E240700033A-LE

W5CT"

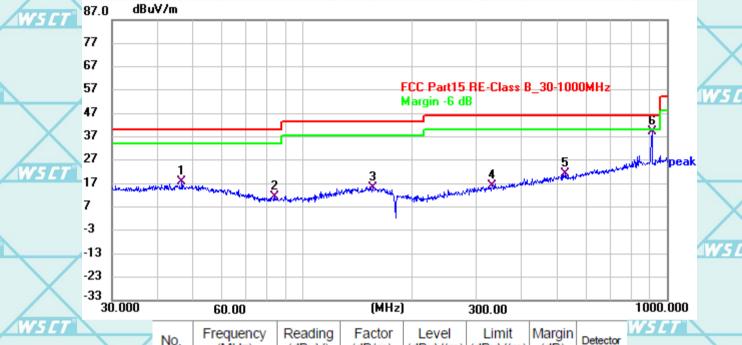
6.7.2. Test Data(Worst case)

Please refer to following diagram for individual
Below 1GHz

4W5 C

The worst mode is BLE 2M

Horizontal:



WSTET	No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	ľ
	1	46.7893	36.75	-19.08	17.67	40.00	-22.33	QP	
WSET	2	84.2576	35.07	-23.90	11.17	40.00	-28.83	QP	
112	3	155.9785	34.91	-19.55	15.36	43.50	-28.14	QP	1
\times	4	332.2273	35.29	-19.21	16.08	46.00	-29.92	QP	
	5	528.2458	36.07	-14.93	21.14	46.00	-24.86	QP	1
WSET	6 *	910.8636	49.09	-9.85	39.24	46.00	-6.76	QP	Ĺ

WSCT WSCT WSCT WSCT WSCT

WSCT WSCT WSCT WSCT

WSCT WSCT WSCT WSCT

ADD: Building A-B, Baoli'an Industrial Park, No.58 and 60, Tangtou Avenue, Shiyan Street, Bao'an District, Shenzhen City, Guangdong Province, Chir

ADD: Building A-B,Baoli'an Industrial Park,No.58 and 60,Tangtou Avenue, Shiyan Street, Bao'an District, Shenzhen City, Guangdong Province, Chin FEL: 0086-755-26996192 26996053 26996144 FAX: 0086-755-86376605 E-mail: fengbing.wang@wsct-cert.com Http://www.wsct-cert.com

深圳世标检测认证股份有限公司
World Standard action Certification & Testing Group (Shenzhen) Co.,Ltd.

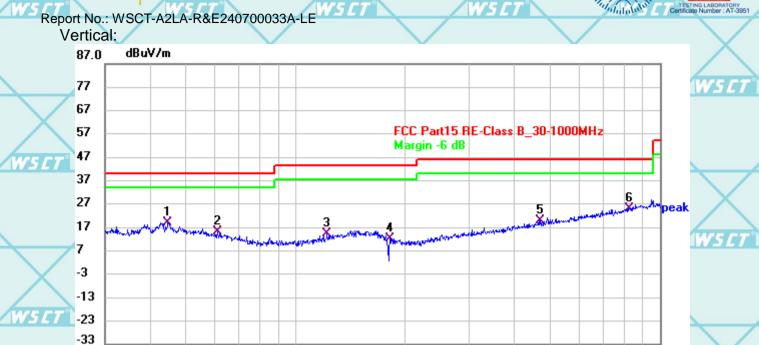
ET WSET

Page 39 of 46

WSET WS







(MHz)

300.00

WSET	No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	
	1	44.7042	37.85	-18.89	18.96	40.00	-21.04	QP	1
	2	61.2926	36.11	-20.70	15.41	40.00	-24.59	QP	
	3	122.3504	35.54	-21.39	14.15	43.50	-29.35	QP	4
	4	182.1596	34.74	-22.38	12.36	43.50	-31.14	QP	172
	5	472.1760	35.99	-16.03	19.96	46.00	-26.04	QP	
	6 *	826 0439	35.70	-10.64	25.06	46.00	-20 94	OP	

WSCT WSCT WSCT WSCT WSCT

Note1:

NS ET

30.000

Freg. = Emission frequency in MHz

W5 Reading level (dBµV) = Receiver reading 7

60.00

Corr. Factor (dB) = Antenna factor + Cable loss - Amplifier factor. Measurement (dB μ V) = Reading level (dB μ V) + Corr. Factor (dB)

Limit (dBµV) = Limit stated in standard

Margin (dB) = Measurement (dB μ V) – Limits (dB μ V)

112

\ /

W5 CT W5 CT

1000.000

WSCT WSCT WSCT WSCT WSCT

WSCT WSCT WSCT

W5 CT

ADD: Building A-B, Baoil'an Industrial Park, No.58 and 60, Tangtou Avenue, Shiyan Street, Bao'an District, Shenzhen City, Guangdong Province, China.

DD: Building A-B,Baoli'an Industrial Park,No.58 and 60,Tangtou Avenue, Shiyan Stueet, Bao'an District, Shenzhen City, Guangdong Province, China EL: 0086-755-26996192 26996053 26996144 FAX: 0086-755-86376605 E-mail: fengbing.wang@wsct-cert.com Http: www.wsct-cert.com

深圳世标检测认证股份有限公司 World Standard ation Certification& Testing Group(Shenzhen) Co.,Ltd

WSCT

V5 ET

WSET

WSET

W5CT°

Page 40 of 46

W5 ET





Report No.: WSCT-A2LA-R&E240700033A-LE

W5 CT

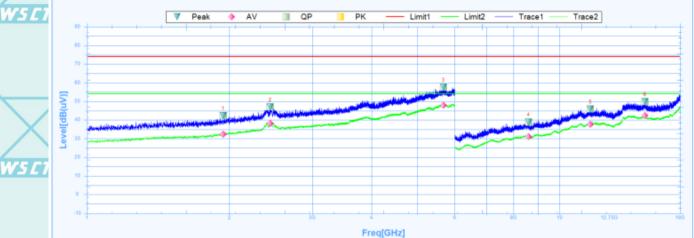
Above 1GHz(The worst mode is BLE 2M)

Note 1: The marked spikes near 2400 MHz with circle should be ignored because they are Fundamental

Note 2: The spurious above 18G is noise only, do not show on the report.

Low channel: 2402MHz

Horizontal:



	ŀ
WSCI	ļ
	I

	Suspu	ited Data Lis	st									
(NO.	Freq. [MHz]	Reading [dB(uV)]	Factor [dB]	Level [dB(uV)]	Limit [dB]	Margin [dB]	Deg [°]	Polarity	Trace	Verdict	
4	1	1941.2500	42.34	2	40.34	74	-31.66	150.6	Horizontal	PK	Pass	
24	1	1941.2500	32.32	2	30.32	54	-21.68	150.6	Horizontal	AV	Pass	
	2	2440.0000	46.97	7.71	39.26	74	-27.03	153	Horizontal	PK	Pass	
	2	2440.0000	38.19	7.71	30.48	54	-15.81	153	Horizontal	AV	Pass	L
	3	5674.3750	57.68	21.16	36.52	74	-16.32	198.4	Horizontal	PK	Pass	
	3	5674.3750	47.84	21.16	26.68	54	-6.16	198.4	Horizontal	AV	Pass	V
	4	8593.5000	38.94	37.24	1.7	74	-35.06	1.4	Horizontal	PK	Pass	
	4	8593.5000	31.16	37.24	-6.08	54	-22.84	1.4	Horizontal	AV	Pass	
	5	11628.0000	45.99	38.93	7.06	74	-28.01	360.1	Horizontal	PK	Pass	
_	5	11628.0000	37.71	38.93	-1.22	54	-16.29	360.1	Horizontal	AV	Pass	
L	6	15172.5000	49.96	39.67	10.29	74	-24.04	53.1	Horizontal	PK	Pass	
	6	15172.5000	42.33	39.67	2.66	54	-11.67	53.1	Horizontal	AV	Pass	

W5 C

W5 CI

WSE

ADD: Building A-B, Baoli'an Industrial Park, No. 58 and 60, Tangtou Avenue 深圳世标检测认证股份有限公司 FAX: 0086-755-86376605

Page 41 of 46

W5 C1



W5ET





Report No.: WSCT-A2LA-R&E240700033A-LE

W5CT

Vertical:



W5CT

W5 C

W5 E

_	Suspu	ited Data Lis	st									
	NO.	Freq. [MHz]	Reading [dB(uV)]	Factor [dB]	Level [dB(uV)]	Limit [dB]	Margin [dB]	Deg [°]	Polarity	Trace	Verdict	
	1	1453.1250	23.55	25.05	-1.5	74	-50.45	322.5	Vertical	PK	Pass	
	1	1453.1250	14.42	25.05	-10.63	54	-39.58	322.5	Vertical	AV	Pass	Ę
	2	2489.3750	33.91	27.56	6.35	74	-40.09	-0.1	Vertical	PK	Pass	Ĺ
	2	2489.3750	25.74	27.56	-1.82	54	-28.26	-0.1	Vertical	AV	Pass	
	3	3199.3750	36.51	28.32	8.19	74	-37.49	1.9	Vertical	PK	Pass	
	3	3199.3750	27.14	28.32	-1.18	54	-26.86	1.9	Vertical	AV	Pass	
7	4	6954.0000	34.33	6.21	28.12	74	-39.67	134.3	Vertical	PK	Pass	
	4	6954.0000	27.4	6.21	21.19	54	-26.6	134.3	Vertical	AV	Pass	
	5	9463.5000	39.25	11.05	28.2	74	-34.75	108.1	Vertical	PK	Pass	
	5	9463.5000	32.11	11.05	21.06	54	-21.89	108.1	Vertical	AV	Pass	L
	6	11824.5000	45.22	16.29	28.93	74	-28.78	41.1	Vertical	PK	Pass	
	6	11824.5000	38.32	16.29	22.03	54	-15.68	41.1	Vertical	AV	Pass	ľ

W5 C1 W5 E7 W5 CI W5C1

W5 CT

W5C1 WS ET WS CT W5 C1

Shiyan Street, Bao'an District, Shenzhen City, Guangdong Province, China. ADD: Building A-B, Baoli'an Industrial Park, No. 58 and 60, Tangtou Avenue,

深圳世标检测认证股份有限公司

FAX: 0086-755-86376605 Page 42 of 46

W5 CT

W5CT

W5CT

W5CT



W5CT°

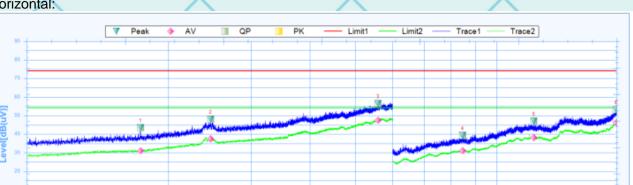




Report No.: WSCT-A2LA-R&E240700033A-LE

Middle channel: 2440MHz

Horizontal:



W5CT°

W5 CT

Freq[GHz]

W5E

W5C

W5C1

1	Suspu	ited Data Lis	st								
	NO.	Freq. [MHz]	Reading [dB(uV)]	Factor [dB]	Level [dB(uV)]	Limit [dB]	Margin [dB]	Deg [°]	Polarity	Trace	Verdict
	1	1744.3750	43.4	0.55	42.85	74	-30.6	0	Horizontal	PK	Pass
	1	1744.3750	31.08	0.55	30.53	54	-22.92	0	Horizontal	AV	Pass
	2	2459.3750	48.11	7.77	40.34	74	-25.89	0	Horizontal	PK	Pass
	2	2459.3750	37.51	7.77	29.74	54	-16.49	0	Horizontal	AV	Pass
	3	5589.3750	56.4	20.74	35.66	74	-17.6	0	Horizontal	PK	Pass
	3	5589.3750	47.37	20.74	26.63	54	-6.63	0	Horizontal	AV	Pass
4	4	8455.5000	39.17	37.18	1.99	74	-34.83	59	Horizontal	PK	Pass
	4	8455.5000	31.21	37.18	-5.97	54	-22.79	59	Horizontal	AV	Pass
	5	11997.0000	47	38.6	8.4	74	-27	12.1	Horizontal	PK	Pass
	5	11997.0000	38.1	38.6	-0.5	54	-15.9	12.1	Horizontal	AV	Pass
	6	17952.0000	53.22	46.18	7.04	74	-20.78	121.3	Horizontal	PK	Pass
	6	17952.0000	46.2	46.18	0.02	54	-7.8	121.3	Horizontal	AV	Pass

W5 E7 W5 CI W5 C W5 C1

W5 CT

W5C1 WS ET WS CT W5 E1

ADD: Building A-B, Baoli'an Industrial Park, No.58 and 60, Tangtou Avenue, Shiyan Street, Bao'an District, Shenzhen City, Guangdong Province, China.

TEL: 0086-755-26996192 26996053 26996144 FAX: 0086-755-86376605

深圳世标检测认证股份有限公司

W5C1

W5 CT

Page 43 of 46



W5CT

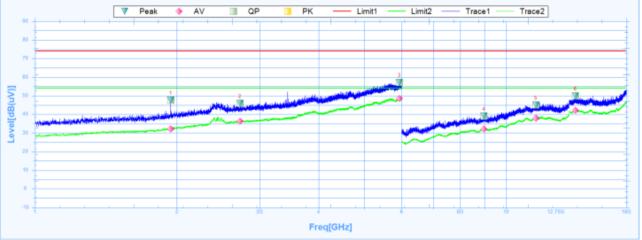




Report No.: WSCT-A2LA-R&E240700033A-LE

W5 CT

Vertical:



W5CT

W5 [

W5 E

	Suspu	ted Data Lis	st								
Z	NO.	Freq. [MHz]	Reading [dB(uV)]	Factor [dB]	Level [dB(uV)]	Limit [dB]	Margin [dB]	Deg [°]	Polarity	Trace	Verdict
	1	1941.8750	47.6	2	45.6	74	-26.4	321.3	Vertical	PK	Pass
	1	1941.8750	32.3	2	30.3	54	-21.7	321.3	Vertical	AV	Pass
	2	2724.3750	45.85	6.68	39.17	74	-28.15	-0.1	Vertical	PK	Pass
	2	2724.3750	36.38	6.68	29.7	54	-17.62	-0.1	Vertical	AV	Pass
	3	5936.8750	57.16	22.03	35.13	74	-16.84	274.6	Vertical	PK	Pass
	3	5936.8750	48.58	22.03	26.55	54	-5.42	274.6	Vertical	AV	Pass
Ţ	4	8962.5000	39.13	37.38	1.75	74	-34.87	65	Vertical	PK	Pass
	4	8962.5000	32.31	37.38	-5.07	54	-21.69	65	Vertical	AV	Pass
	5	11562.0000	44.95	38.99	5.96	74	-29.05	20	Vertical	PK	Pass
	5	11562.0000	37.95	38.99	-1.04	54	-16.05	20	Vertical	AV	Pass
	6	14020.5000	49.96	41.47	8.49	74	-24.04	232.4	Vertical	PK	Pass
	6	14020.5000	42.12	41.47	0.65	54	-11.88	232.4	Vertical	AV	Pass

W5 C1 W5 E7 W5 C W5 C1 W5 CT

> W5C1 WS ET WS CT W5 E1

Shiyan Street, Bao'an District, Shenzhen City, Guangdong Province, China. ADD: Building A-B, Baoli'an Industrial Park, No. 58 and 60, Tangtou Avenue, FAX: 0086-755-86376605

W5CT

深圳世标检测认证股份有限公司

W5CT

W5C1



W5ET





Report No.: WSCT-A2LA-R&E240700033A-LE

High channel: 2480MHz

Horizontal:



W5CT°

W5 CT

W5 E

W5 E

L	Suspu	ted Data Lis	st								
	NO.	Freq. [MHz]	Reading [dB(uV)]	Factor [dB]	Level [dB(uV)]	Limit [dB]	Margin [dB]	Deg [°]	Polarity	Trace	Verdict
	1	1958.7500	48.9	2.1	46.8	74	-25.1	359.5	Horizontal	PK	Pass
	1	1958.7500	32.76	2.1	30.66	54	-21.24	359.5	Horizontal	AV	Pass
	2	2458.1250	46.84	7.77	39.07	74	-27.16	59.8	Horizontal	PK	Pass
	2	2458.1250	37.59	7.77	29.82	54	-16.41	59.8	Horizontal	AV	Pass
	3	5661.8750	56.84	21.1	35.74	74	-17.16	127.9	Horizontal	PK	Pass
I	3	5661.8750	48.05	21.1	26.95	54	-5.95	127.9	Horizontal	AV	Pass
L	4	8881.5000	39.42	37.35	2.07	74	-34.58	141.5	Horizontal	PK	Pass
	4	8881.5000	31.64	37.35	-5.71	54	-22.36	141.5	Horizontal	AV	Pass
	5	12181.5000	45.57	38.65	6.92	74	-28.43	270.6	Horizontal	PK	Pass
	5	12181.5000	37.84	38.65	-0.81	54	-16.16	270.6	Horizontal	AV	Pass
	6	17715.0000	51.81	44.59	7.22	74	-22.19	179.8	Horizontal	PK	Pass
,	6	17715.0000	44.53	44.59	-0.06	54	-9.47	179.8	Horizontal	AV	Pass

W5 E7 W5 CI W5 C1

W5 CT

W5C1 WS ET WS CT W5 E1

Shiyan Street, Bao'an District, Shenzhen City, Guangdong Province, China. ADD: Building A-B, Baoli'an Industrial Park, No. 58 and 60, Tangtou Avenue, TEL: 0086-755-26996192 26996053 26996144 FAX: 0086-755-86376605

深圳世标检测认证股份有限公司

W5 CT

Page 45 of 46

ation& Testin

W5C1

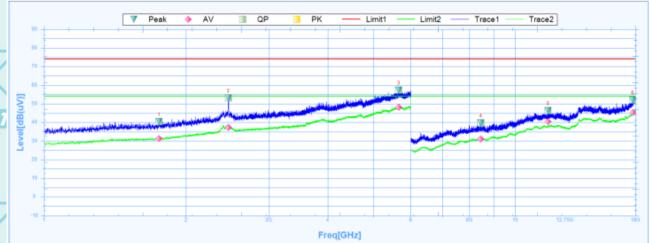






Report No.: WSCT-A2LA-R&E240700033A-LE

Vertical:



NS E

	Suspu	ited Data Lis	st								
Z	NO.	Freq. [MHz]	Reading [dB(uV)]	Factor [dB]	Level [dB(uV)]	Limit [dB]	Margin [dB]	Deg [°]	Polarity	Trace	Verdict
	1	1752.5000	40.32	0.62	39.7	74	-33.68	207.7	Vertical	PK	Pass
	1	1752.5000	31.34	0.62	30.72	54	-22.66	207.7	Vertical	AV	Pass
	2	2461.8750	53.16	7.78	45.38	74	-20.84	45.1	Vertical	PK	Pass
	2	2461.8750	37.33	7.78	29.55	54	-16.67	45.1	Vertical	AV	Pass
	3	5655.0000	57.31	21.07	36.24	74	-16.69	268.6	Vertical	PK	Pass
	3	5655.0000	48.03	21.07	26.96	54	-5.97	268.6	Vertical	AV	Pass
Ţ	4	8451.0000	39.7	37.18	2.52	74	-34.3	358.6	Vertical	PK	Pass
L	4	8451.0000	31.16	37.18	-6.02	54	-22.84	358.6	Vertical	AV	Pass
	5	11745.0000	46.29	38.83	7.46	74	-27.71	181.4	Vertical	PK	Pass
	5	11745.0000	40.41	38.83	1.58	54	-13.59	181.4	Vertical	AV	Pass
	6	17766.0000	52.15	44.93	7.22	74	-21.85	314.2	Vertical	PK	Pass
	6	17766.0000	45.22	44.93	0.29	54	-8.78	314.2	Vertical	AV	Pass

Note:

- 1. All emissions not reported were more than 20dB below the specified limit or in the noise floor.
- Emission Level= Reading Level+Probe Factor +Cable Loss.
- Data of measurement within this frequency range shown "--" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

****END OF REPORT****

ADD: Building A-B, Baoli'an Industrial Park, No. 58 and 60, Tangtou Avenue

Page 46 of 46