





Please Contact with WSCT www.wsct-cert.com

TEST REPORT

FCC ID: 2AIZN-X624

Product: Mobile Phone

Model No.: X624

Additional Model No.: N/A

Trade Mark: Infinix

Report No.: FCC181100005A-BT

Issued Date: Nov. 17, 2018

Issued for:

INFINIX MOBILITY LIMITED RMS 05-15, 13A/F SOUTH TOWER WORLD FINANCE CTR HARBOUR CITY 17 CANTON RD TST KLN HONG KONG

Issued By:

World Standardization Certification & Testing Group Co., Ltd.

Building A-B, Baoshi Science & Technology Park, Baoshi Road,

Bao'an District, Shenzhen, Guangdong, China

TEL: +86-755-26996192

FAX: +86-755-86376605

Note: The results contained in this report pertain only to the tested sample. This report shall not be reproduced, except in full, without written approval of World Standardization Certification & Testing Group Co., Ltd. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.



ADD:Building A-B Baoshi Science & technology Park, Baoshi Road, Bao'an District, Shenzhen, Guangdong, China

Page 1 of 81

WSCT







Table of Contents

For Question, Please Contact with WSCT www.wsct-cert.com

	1. GENERAL INFORMATION WSET WSET	3 <i>W5ET</i> °
/	1.1 GENERAL DESCRIPTION OF EUT	4
X	1.2 FACILITIES AND ACCREDITATIONS	5
	1.3 DESCRIPTION OF TEST MODES	6
NSET"	1.4 TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING	W5/7°
V 12 12 1	1.5 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)	8
	2. SUMMARY OF TEST RESULTS	9
	3. MEASUREMENT INSTRUMENTS	10 W5LT
/	4. EMC EMISSION TEST	11
X	4.1 CONDUCTED EMISSION MEASUREMENT	11
	4.2 RADIATED EMISSION MEASUREMENT	15
NSET	WSCT WSCT WSCT	W5CT°
	5. NUMBER OF HOPPING CHANNEL	32
	5.1 APPLIED PROCEDURES / LIMIT	32
	5.2 TEST RESULTS	33
	6. AVERAGE TIME OF OCCUPANCY WSET WSET	34 W5ET
	6.1 APPLIED PROCEDURES / LIMIT	34
	6.2 TEST RESULTS	36
WE ET	6. HOPPING CHANNEL SEPARATION MEASUREMENT	42
NSET"	6.1 APPLIED PROCEDURES / LIMIT	42
	6.2 TEST RESULTS	43
	7. BANDWIDTH TEST	52
	7.1 APPLIED PROCEDURES / LIMIT 7.2 TEST RESULTS	52 W5LT
\/		
X	8. PEAK OUTPUT POWER TEST	62
	8.1 APPLIED PROCEDURES / LIMIT	62
NSET"	8.2 TEST RESULTS W557	63
	9. 100KHZ BAND EDGES MEASUREMENT	68
	9.1 APPLIED PROCEDURES / LIMIT	68
	10. ANTENNA APPLICATION W5[7] W5[7]	81 <i>W5ET</i>
\ /	10.1 ANTENNA REQUIREMENT	81

Certification & Programme Certification & Pr

SET WSE

AWSET

W5E

世标检测认证股份 esting Group Co.,Ltd.







For Question,
Please Contact with WSCT
www.wsct-cert.com

1. GENERAL INFORMATION

Mobile phone X624 N/A
N/A
INFINIX MOBILITY LIMITED
RMS 05-15, 13A/F SOUTH TOWER WORLD FINANCE CTR HARBOUR CITY 17 CANTON RD TST KLN HONG KONG
SHENZHEN TECNO TECHNOLOGY CO.,LTD.
1/F-4/F,7/F, BUILDING 3, TAIPINGYANG INDUSTRIAL ZONE, NO.2088, SHENYAN ROAD, YANTIAN DISTRICT, SHENZHEN CITY, GUANGDONG PROVINCE, P.R.C
Nov. 02, 2018
Nov. 03, 2018 to Nov. 15, 2018
FCC CFR Title 47 Part 15 Subpart C Section 15.247

The above equipment has been tested by World Standardization Certification & Testing Group 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.

Tested By:	Pu Shixi
	(Pu Shiyi)

Date: Nov. 17, 2018

Check By:

ain Shuigaan

(Qin Shuiquan)

(Wang Fengbing)

Date: Nov . 17, 20/8

Approved By:

Data:

low () vol.

WSCT OF THE RESIDENCE OF THE PARTY OF THE PA

世标检测认证股份 Application Certification & Testing Group Co.,Ltd. Report No.:FCC18080068A-BT

ADD:Building A-B Baoshi Science & technology Park, Baoshi Road, Bao'an District, Shenzhen, Guangdong, Chin

Page 3 of 81

Member of the WSCT INC







11	GENER	AL DESCRIPTION	ON OF FUT
	GLIVEN	AL DESCRIE IN	

1.1	GENERAL DESC	CRIPTION OF EUT For Question	ion,
	Equipment Type:	Mobile Phone Please Contact www.wsct-ce	ALCOHOL: ACCOUNT
	Test Model:	X624 WSET WSET	V5ET
	Additional Model:	N/A	
	Trade Mark:	Infinix	
	Applicant:	INFINIX MOBILITY LIMITED W5.57	
	Address:	RMS 05-15, 13A/F SOUTH TOWER WORLD FINANCE CTR HARBOUR CITY 17 CANTON RD TST KLN HONG KONG	X
/	Manufacturer:	SHENZHEN TECNO TECHNOLOGY CO.,LTD.	V5ET
	Address:	1/F-4/F,7/F, BUILDING 3, TAIPINGYANG INDUSTRIAL ZONE, NO.2088, SHENYAN ROAD, YANTIAN DISTRICT, SHENZHEN CITY, GUANGDONG PROVINCE, P.R.C	
	Hardware version:	V2.0 WSET WSET	
	Software version:	X624-H8026CDE-GO-181024V73	X
	Extreme Temp. Tolerance:	-10 C 10 +65 C	VSFT
	Battery information:	Li-Polymer Battery: BL-39KX Voltage: 3.85V Rated Capacity: 3900mAh/12.92Wh Typical Capacity: 4000mAh/13.30Wh Limited Charge Voltage: 4.35V	
		Adapter: CU-52JT Input: AC 100-240V 50/60Hz 200mA Output: DC 5.0V 1.2A	X
_	Operating Frequency	2402-2480MHz	VSET
	Channels	79	
	Channel Spacing	1MHz	
	Modulation Type	GFSK, π /4-DQPSK, 8-DPSK	
	Version	3.0	X
	Antenna Type:	Integral Antenna	VSET
	Antenna gain:	1.26dBi	

CT WSCT

WSET

<u> ΔW5Ε7</u>

AWSET"

WSET OF

SET® WS

4W5E1

WSE.

世标检测认证股份 ting Group Co..Ltd.





1.2 FACILITIES AND ACCREDITATIONS

Please Contact with WSCT www.wsct-cert.com

All measurement facilities used to collect the measurement data are located at Building A-B, Baoshi Science & Technology Park, Baoshi Road, Bao'an District, Shenzhen, Guangdong, China of the World Standardization Certification & Testing Group Co., Ltd.

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.'

Registration Number: 366353

1.2.1 ACCREDITATIONS

Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025.

USA NVLAP (The certificate registration number is NVLAP LAB CODE:600142-0) Japan (The certificate registration number is C-4790, R-3684, G-837)

Canada **INDUSTRY CANADA**

(The certificated registration number is 7700A-1)

China CNAS (The certificated registration number is L3732)

Copies of granted accreditation certificates are available for downloading from our web site,

http://www.wsct-cert.com

1.2.2 TEST DESCRIPTION

1.2.2 1MEASUREMENT UNCERTAINTY

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

L	No.	Item W5CT W5	Uncertainty W5C7
	1	Conducted Emission Test	±3.2dB
	2 RF power,conducted		±0.16dB
	3	Spurious emissions,conducted	±0.21dB
	4	All emissions,radiated(<1G)	±4.7dB
\langle	5	All emissions,radiated(>1G)	±4.7dB
e e	6	Temperature	±0.5°C
L	7	Humidity	±2%

rtification







For Question,
Please Contact with WSCT
www.wsct-cert.com

1.3 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

	Modulation type	Mode	5 E
j	1Mbps		
×	2Mbps	Mode 1 \ Mode 2 \ Mode 3 \ Mode 4	
.,	3Mbps	The state of the s	

Pretest Mode	Description
Mode 1	CH00 VS FT
Mode 2	CH39
Mode 3	CH78
Mode 4	Normal Hopping

For Conducted Emission				
Final Test Mode	Description			
Mode 4	Normal Hopping			

		X X	4			
	For Radiated Emission					
	Final Test Mode Description					
	Mode 1	CH00				
	Mode 2	CH39				
	Mode 3	W5ET CH78W5ET W	5			
,	Mode 4	Normal Hopping				

Note:

Certification

- (1) The measurements are performed at the highest, middle, lowest available channels.
- (2) The data rate was set in 1Mbps,2 Mbps,3 Mbps for radiated emission due to the highest RF output power.
- (3) Record the worst case of each test item in this report.

W5ET W





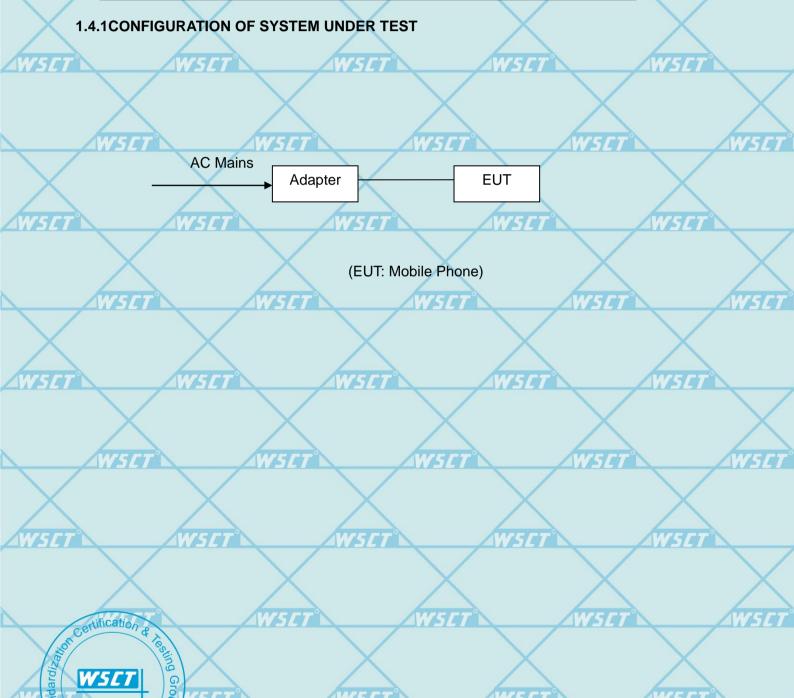


For Question, Please Contact with WSCT www.wsct-cert.com

1.4 TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING

During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters of FHSS

Test software Version	WSET	N/A	SET®
Frequency	2402 MHz	2441 MHz	2480 MHz
Parameters(1Mbps)	DEF	DEF	DEF
Parameters(2Mbps)	DEF	DEF	DEF
Parameters(3Mbps)	DEF	DEF	DEF



Report No.:FCC18080068A-BT

Page 7 of 81

ADD:Building A-B Baoshi Science & technology Park, Baoshi Road, Bao'an District, Shenzhen, Guangdong, China

Member of the WSCT INC







1.5 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)

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.

WSET

		garation daming the tool	X	X		X	
	Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Note	
41	1	Adapter	Mal	CU-52JT		AWILI	
	2	Earphone	/	N/A	1	/	
	N.	SET	WSET	WSET	WSET		W
/ 	(1) (2) (3)	The support equipr For detachable typ	ment was authorized by e I/O cable should be s nielded" "with core"; "No	specified the length in	cm in 『Length	_	
	W	SET	WSCT	WSET	WSET		W
		WSCT	WSIT	WSP		WST	

ZW51-1	W5LT	W54		
WSE	WS		TET W	SET WSET
WSET	WSET	WSET	W5ET*	WSET

WSET	W5E	W	W W	SET W	SET

WSET	WSET	WSET	WSET	WSET

certification & WSET WSET WSET WSET





2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

	WSET	W517		567	
/		FCC Part15 (15.247) , Subpart (
	Standard Section	Test Item	Judgment	Remark	71
	15.207	Conducted Emission	PASS		
	15.247(a)(1)	Hopping Channel Separation	PASS		
/	15.247(b)(1)	Peak Output Power	PASS		
	15.247(c)	Radiated Spurious Emission	PASS		
7	15.247(a)(iii)	Number of Hopping Frequency	PASS	W5	77
	15.247(a)(iii)	Dwell Time	PASS	X	
	15.247(a)(1)	W5CT Bandwidth W5CT	PASS	SET	
	15.247(d)	100kHz Band Edges	PASS		/
	15.205	Band Edge Emission	PASS	- Am	1
	15.203	Antenna Requirement	PASS		

NOTE:

(1)" N/A" denotes test is not applicable in this test report.

WSET WSET WSET

世标检测认证股份 ADD:Building A-B Baoshi Science & technology Park, Baoshi Road, Bao'an District, Shenzhen, Guangdong, China TEL:86-755-26996143/26996144/26996145/28996192 FAX:86-755-86376605 E-mail:Fengbing.Wang@wsct-cert.com Http://www.wsct-cert.com

Certification &





3. MEASUREMENT INSTRUMENTS

						/	
	NAME OF EQUIPMENT	MANUFACTURER	MODEL	SERIAL NUMBER	Calibration Date	Calibration Due.	1
	EMI Test Receiver	R&S	ESCI	100005	08/19/2018	08/18/2019	
7	LISN	AFJ	5L/LS16	16010222119	08/19/2018	08/18/2019	
	LISN(EUT)	Mestec	AN3016	04/10040	08/19/2018	08/18/2019	×
	Universal Radio Communication Tester	R&S	CMU 200	1100.0008.02	08/19/2018	08/18/2019	7/
/	Coaxial cable	Megalon	LMR400	N/A	08/12/2018	08/11/2019	
	GPIB cable	Megalon	GPIB	N/A	08/12/2018	08/11/2019	
7	Spectrum Analyzer	R&S	FSU	100114	08/19/2018	08/18/2019	
	Pre Amplifier	H.P.	HP8447E	2945A02715	10/13/2018	10/12/2019	
	Pre-Amplifier	CDSI	PAP-1G18-38		10/13/2018	10/12/2019	×
	Bi-log Antenna	SUNOL Sciences	JB3 _{W5Z}	A021907	09/13/2018	09/12/2019	5 <u>A</u>
/	9*6*6 Anechoic	/ \	/	-/	08/21/2018	08/20/2019	
/	Horn Antenna	COMPLIANCE ENGINEERING	CE18000	\mathcal{X}	09/13/2018	09/12/2019	
7	Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-631	08/23/2018	08/22/2019	
	Cable	TIME MICROWAVE	LMR-400	N-TYPE04	04/25/2018	04/24/2019	V
	System-Controller	ccs	N/A	N/A	N.C.R	N.C.R	
	Turn Table	CCS	N/AW5L	7°N/A	N.C.R	N.C.R	7/4
	Antenna Tower	ccs	N/A	N/A	N.C.R	N.C.R	
	RF cable	Murata	MXHQ87WA3000		08/21/2018	08/20/2019	
7	Loop Antenna	EMCO	6502	00042960	08/22/2018	08/21/2019	
	Horn Antenna	SCHWARZBECK	BBHA 9170	1123	08/19/2018	08/18/2019	×
	Power meter	Anritsu	ML2487A	6K00003613	08/23/2018	08/22/2019	
	Power sensor	Anritsu	MX248XD		08/19/2018	08/18/2019	7

WSET WSET WSET WSET

世标检测认证股份 Testing Group Co.,Ltd.





Please Contact with WSCT www.wsct-cert.com

4. EMC EMISSION TEST

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 POWER LINE CONDUCTED EMISSION Limits (Frequency Range 150KHz-30MHz)

FREQUENCY (MHz)	Conducted	Conducted	
FREQUENCT (MITZ)	Quasi-peak	Quasi-peak	limit (dBµV)
0.15 -0.5	66 - 56 *	56 - 46 *	FCC
0.50 -5.0	56.00	46.00	FCC
W 5 5.0 -30.0	60.00	50.00	5_7FCC

Note:

- (1) The tighter limit applies at the band edges.
- (2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

Certification

ADD:Building A-B Baoshi Science & technology Park, Baoshi Road, Bao'an District, Shenzhen, Guangdong, China TEL:86-755-26996143/26996144/26996145/28996197 FAX:86-755-86376605 F. mail:Forcette West Control of the Cont





For Question,
Please Contact with WSCT

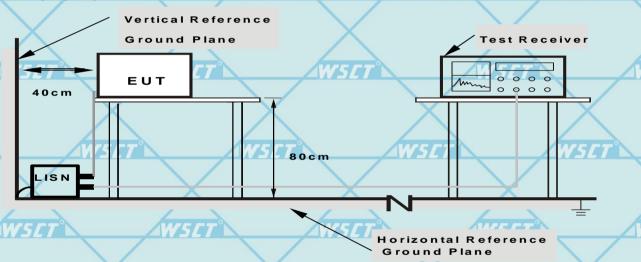
4.1.2 TEST PROCEDURE

- a. The EUT was placed 0.4 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- d LISN at least 80 cm from nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item -EUT Test Photos.

4.1.3 DEVIATION FROM TEST STANDARD

No deviation

4.1.4 TEST SETUP



Note: 1.Support units were connected to second LISN

2.Both of LISNs (AMN) are 80 cm from EUT and at least 80

from other units and other metal planes

4.1.5 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

世标检测认证股份 Testing Group Co.,Ltd.



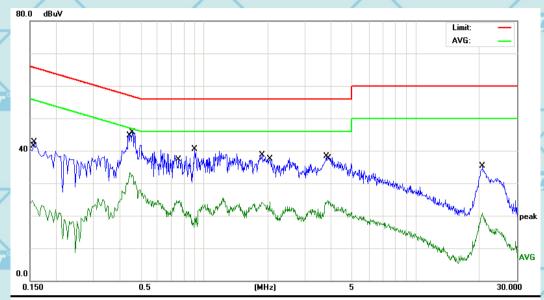




4.1.6TEST RESULTS

For Question,
Please Contact with WSCT
www.wsct-cert.com

Temperature	26 °C /W5[7° W5[Relative Humidity	56%
Pressure	1010hPa	Phase	L
Test Mode	Mode 4	Voltage	120V/60Hz



	No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
7			MHz	dBuV	dB	dBuV	dBuV	dB	Detector
	1		0.1539	14.19	10.45	24.64	55.78	-31.14	AVG
	2		0.1580	32.23	10.45	42.68	65.56	-22.88	QP
7	3		0.4460	22.69	10.51	33.20	46.95	-13.75	AVG
	4	*	0.4580	35.18	10.51	45.69	56.73	-11.04	QP
	5		0.7660	14.18	10.54	24.72	46.00	-21.28	AVG
/	6		0.9020	30.06	10.54	40.60	56.00	-15.40	QP
	7		1.8700	28.06	10.69	38.75	56.00	-17.25	QP
	8		2.0340	13.56	10.71	24.27	46.00	-21.73	AVG
	9		3.7740	27.58	10.73	38.31	56.00	-17.69	QP
	10		3.8300	14.06	10.73	24.79	46.00	-21.21	AVG
	11		20.5180	9.83	11.06	20.89	50.00	-29.11	AVG
7	12		20.6500	24.25	11.06	35.31	60.00	-24.69	QP

Remark: All the modes have been investigated, and only worst mode is presented in this report.

世标检测认证股份

Certification

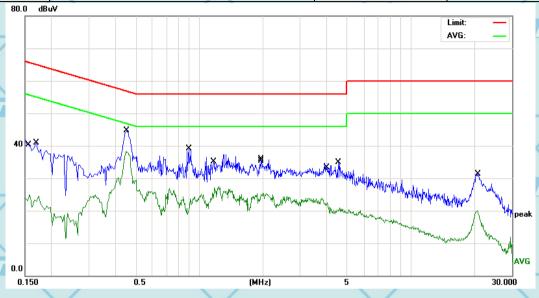






For Question,
Please Contact with WSCT
www.wsct-cert.com

Temperature	26 °C /W5[T° \ W5[Relative Humidity	56%
Pressure	1010hPa	Phase	N
Test Mode	Mode 4	Voltage	120V/60Hz



	No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
_			MHz	dBuV	dB	dBuV	dBuV	dB	Detector
	1		0.1580	14.46	10.45	24.91	55.56	-30.65	AVG
	2		0.1700	30.50	10.45	40.95	64.96	-24.01	QP
7/	3	*	0.4500	27.78	10.51	38.29	46.87	-8.58	AVG
	4		0.4540	34.17	10.51	44.68	56.80	-12.12	QP
	5		0.8940	28.64	10.54	39.18	56.00	-16.82	QP
	6		1.1820	16.60	10.58	27.18	46.00	-18.82	AVG
	7		1.9620	25.22	10.70	35.92	56.00	-20.08	QP
	8		1.9940	14.82	10.71	25.53	46.00	-20.47	AVG
7/	9		4.0300	11.79	10.73	22.52	46.00	-23.48	AVG
	10		4.5300	24.20	10.74	34.94	56.00	-21.06	QP
	11		20.5980	9.10	11.06	20.16	50.00	-29.84	AVG
	12		20.7939	20.14	11.06	31.20	60.00	-28.80	QP

Remark: All the modes have been investigated, and only worst mode is presented in this report.

世标检测认

Certification &





4.2 RADIATED EMISSION MEASUREMENT

Please Contact with WSCT www.wsct-cert.com

4.2.1Radiated Emission Limits (Frequency Range 9kHz-1000MHz)

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

- 4				
	Frequencies	Field Strength	Measurement Distance	7
	(MHz)	(micorvolts/meter)	(meters)	7
\	0.009~0.490	2400/F(KHz)	300	
	0.490~1.705	24000/F(KHz)	30	
7	1.705~30.0	30 75/7	30	
A	30~88	100	3	
	88~216	150	3	×
	216~960	200	3	
	Above 960	500	3	I

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

١	PP PT LAPPE	TO MAKE PER	WEET			
		Limit (dBuV/m) (at 3M)				
	FREQUENCY (MHz)	PEAK	AVERAGE			
	Above 1000	74	54			

Notes

- (1) The limit for radiated test was performed according to FCC PART 15C.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).

	Spectrum Parameter	Setting
	Attenuation	Auto
	Start Frequency	75 T 1000 MHz W5 C 7
	Stop Frequency	10th carrier harmonic
,	RB / VB (emission in restricted band)	1MHz / 1MHz for Peak, 1 MHz / 1Hz for Average

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP // 5 []
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP



ertification

世标检测认证股份 esting Group Co...Ltd.





4.2.2 TEST PROCEDURE

For Question,
Please Contact with WSCT
www.wsct-cert.com

- a. The measuring distance of at 3 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
- b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter open area test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- e. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- f. For the actual test configuration, please refer to the related Item –EUT Test Photos. Note:

Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported

4.2.3 DEVIATION FROM TEST STANDARD

No deviation

ADD:Building A-B Baoshi Science & technology Park, Baoshi Road, Bao'an District, Shenzhen, Guangdong, Chi TEL:86-755-26996143/26996144/26996145/28996192 FAX:86-755-86376605 E-mail:Fengbing.Wang@wsct-cert.com Http://www.wsct-cert.com

ertification





4.2.4 TEST SETUP

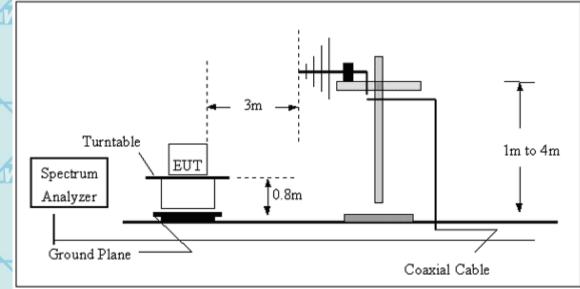
(A) Radiated Emission Test-Up Frequency Below 30MHz

For Question,
Please Contact with WSCT
www.wsct-cert.com

Turntable 3m Test Receiver

Ground Plane Coaxial Cable

(B) Radiated Emission Test-Up Frequency 30MHz~1GHz



WSET WSET WSET WSET

WSET WSET WSET WSET

VSET WSET

RB份 ADD:Building A-B Baoshi Science & technology Park, Baoshi Road, Bao'an District, Shenzhen, Guangdong, China TEL:86-755-26996143/26996144/26996145/26996192 FAX:86-755-86376605 E-mail:Fengbing.Wang@wsct-cert.com Http://www.wsct-cert.com

Certification

(C) Radiated Emission Test-Up Frequency Above 1GHz



Coaxial Cable



For Question, Please Contact with WSCT

www.wsct-cert.com

3m Turntable EUT Spectrum Analyzer

4.2.5 EUT OPERATING CONDITIONS

Ground Plane

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

ADD:Building A-B Baoshi Science & technology Park, Baoshi Road, Bao'an District, Shenzhen, Guangdong, China TEL:86-755-26996143/26996144/26996145/26996192 FAX:86-755-86376605 E-mail:Fengbing.Wang@wsct-cert.com Http://www.wsct-cert.com

Certification







4.2.5.1 RESULTS (Below 30 MHz)

For Question, Please Contact with WSCT www.wsct-cert.com

1	Test Mode	Mode 1/ Mode 2/ Mode 3	V5L	Polarization	Horizontal / Vertical	7
	Temperature	20 ℃		Relative Humidity	48%	
	Pressure	1010 hPa			X	

Freq.	Reading	Limit	Margin	State	
(MHz)	(dBuV/m)	(dBuV/m)	(dB)	P/F	
	/	_	/	Р	/
WSET -	W5ET°	W5ET	/W5	7 P	V5

NOTE:

No result in this part for margin above 20dB.

Distance extrapolation factor =40 log (specific distance/test distance)(dB);

Limit line = specific limits (dBuV) + distance extrapolation factor.

All the x/y/z orientation has been investigated, and only worst case is presented in this report.

W5ET* W5ET* W5ET* W5ET*	
WSET WSET WSET WSET WSET	
WSET WSET WSET WSET WS	41
WSET WSET WSET WSET	
WSET WSET WSET WSET WS	
WSET WSET WSET WSET	
Certification & WSET WSET WSET WSET	<u> </u>

世标检测认证股份







For Question,
Please Contact with WSCT
www.wsct-cert.com

4.2.5.2 TEST RESULTS (Between 30M - 1000 MHz)

Test Mode	Mode 1 with G	FSK modulation	Polarization :	Horizontal
Temperature	20 ℃		Relative Humidity	60%
Pressure	1010 hPa	X		X



	No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	The state of
/			MHz	dBu∀	dB	dBuV/m	dBu√/m	dB	Detecto
	1	*	31.6202	23.19	4.17	27.36	40.00	-12.64	QP
7	2	21	54.8348	27.10	-5.59	21.51	40.00	-18.49	QP
	3		108.2667	22.97	-2.21	20.76	43.50	-22.74	QP
	4		227.6905	24.24	-5.74	18.50	46.00	-27.50	QP
	5	1	434.0650	21.70	-0.43	21.27	46.00	-24.73	QP
/	6	(638,3686	31.64	1.71	33.35	46.00	-12.65	QP

WSET WSET WSET

Remark: All the modes have been investigated, and only worst mode is presented in this report.

THE WELL WELL WELL WELL

VSCT WSCT

WSU

ADD:Building A-B Baoshi Science & technology Park, Baoshi Road, Bao'an District, Shenzhen, Guangdong, China TEL:86-755-26996143/26996144/26996145/28996192 FAX:86-755-86376605 E-mail:Fengbing.Wang@wsct-cert.com Http://www.wsct-cert.com

Member of the WSCT INC

Report No.:FCC18080068A-BT

Certification

Page 20 of 81







For Question,
Please Contact with WSCT
www.wsct-cert.com

1	Test Mode	Mode 1 with GFSK	modulation	Polarization :	Vertical	
	Temperature	20 ℃		Relative Humidity	60%	
	Pressure	1010 hPa	X		X	



	No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
/			MHz	dBu∀	dB	dBuV/m	dBuV/m	dB	Detector
	1	*	31.0706	25.22	4.38	29.60	40.00	-10.40	QP
	2	41	53.8818	28.87	-5.48	23.39	40.00	-16.61	QP
	3		116.9495	23.12	-2.54	20.58	43.50	-22.92	QP
	4		189.7385	24.07	-7.19	16.88	43.50	-26.62	QP
	5	4	331.3546	23.01	-2.02	20.99	46.00	-25.01	QP
7	6	(38.3686	31.30	1.40	32.70	46.00	-13.30	QP

Remark: All the modes have been investigated, and only worst mode is presented in this report.

WSET WSET WSET WSET

V5ET V

W561

W5E

WSET |

Certification

ADD-Puilding A. P. Pagehi Sa







4.2.5.3 TEST RESULTS(1GHz to 25GHz)

For Question, Please Contact with WSCT www.wsct-cert.com

1	Pressure	1010 hPa	Test Mode	Mode 1 TX(1Mbps)	
4	Temperature	20 °C	Relative Humidity	48%	V-7-7-1

	Freq.	Ant.Pol.	Emission		Limi	Limit		Over(dB)	
	(MHz)	SIT	Level(dBuV)	3m(dBuV/m)		m) 7°		
		H/V	PK	AV	PK	AV	PK	AV	
	4804	V	60.48	41.73	74	54	-13.52	-12.27	
	7206	V	58.16	40.78	74	54	-15.84	-13.22	
1	4804	H	58.79	39.10	74	54	-15.21	-14.90	
4	7206	-	58.52	39.52	74	54	-15.48	-14.48	

Remark:

AWAGE	All emissions not reporte				
AWSET	WSET	WSET	WSET WSET	WSET	WSET
WSET	WSCT	WSCI			567
	WSET	WSET	WSCT	WSET	WSET
WSET	WSET	WSEI	WSE	7 W	SET
	WSET	WSET	WSET	WSET	WSET
WSET	WSET	WSCI	$\langle \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$		SET
	atification	WSET	WSET	WSET	WSET
rdization	WSCT Continued to the second s	X	\times		X







For Question,
Please Contact with WSCT
www.wsct-cert.com

1	Pressure	1010 hPa	Test Mode	Mode 2 TX(2Mbps)
	Temperature	20 ℃	Relative Humidity	48%

Freq.	Ant.Pol.	Emission	Level(dBuV)	Limit		Over(dB)	
(MHz)	5/7	/V	15/T°	3m(dBuV/m)		WSCT	
	H/V	PK	AV	PK	AV	PK	AV
4882	V	58.20	41.67	74	54	-15.80	-12.33
7323	V	59.28	39.18	74	54	-14.72	-14.82
4882	H	58.84	40.59	74	54	-15.16	-13.41
7323	-	58.74	39.74	74	54	-15.26	-14.26

Remark:

All emissions not reported were more than 20dB below the specified limit or in the noise floor.

Pressure	1010 hPa	Test Mode	Mode 3 TX(3Mbps)
Temperature	20 ℃	Relative Humidity	48%

Freq.	Ant.Pol.	Emission I	ovol(dRu)/)	ET Liv	nit	Ovo	r(dB)
(MHz)	Ant.Poi.	Emission Level(dBuV)		Limit 3m(dBuV/m)		Over(dB)	
, ,	H/V	PK	AV	PK	AV	PK	AV
4960	V	60.04	39.56	74	54	-13.96	-14.44
7440	36 V	58.82	39.50	74	54	-15.18	-14.50
4960	Н	58.38	39.93	74	54	-15.62	-14.07
7440	Н	58.93	39.93	× 74	54	-15.07	-14.07

Remark:

Certification

All emissions not reported were more than 20dB below the specified limit or in the noise floor.

WSET WSET WSET WSET

WSET WSET WSET

世标检测认证股份
ADD:Building A-B Baoshi Science & technology Park, Baoshi Road, Bao'an District, Shenzhen, Guangdong, China







4.2.5.4 TEST RESULTS (Restricted Bands Requirements)

For Question,
Please Contact with WSCT
www.wsct-cert.com

Test result for 1Mbps Mode:

Polarization	Vertical	\ \ T	Test Mode	TX /Mode1-1Mbps(CH0)
Temperature	20 ℃	/ F	Relative Humidity	48%
Pressure	1010 hPa	15/T		WSIT

	Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector
4	(MHz)	(dBµV) 5	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Type
	2387	60.13	-8.76	51.37	74	22.63	peak
	2387	56.63	-8.76	47.87	54	6.13	AVG
1	2390	60.56	-8.73	51.83	W 74.7	22.17	/5 peak
	2390	56.70	-8.73	47.97	54	6.03	AVG
	Domorke	- X	99	X		Y	

Remark:

Factor = Antenna Factor + Cable Loss - Pre-amplifier.

All the x/y/z orientation has been investigated, and only worst case is presented in this report.

Polarization	Horizontal	Test Mode	TX /Mode1-1Mbps(CH0)
Temperature	20 ℃	Relative Humidity	48%
Pressure	1010 hPa		WSET

Frequency Reading Factor L	Limits Margin Detector	r Type
(MHz) (dBµV) (dB) (dB	V/m) (dBµV/m) (dB)	
2384 64.08 -8.76 5	32 74 18.68 pe	ak
2384 55.60 -8.76 4	84 54 7.16 AV	G
2390 60.04 -8.73 5	31 74 22.69 pea	ak
2390 55.69 -8.73 4	96 54 7.04 AV	G

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

All the x/y/z orientation has been investigated, and only worst case is presented in this report.

Certification & Continue Conti

WSET

WSET.

AWSET

W5E

世标检测认证股份 Testing Group Co.,Ltd.







For Question,
Please Contact with WSCT
www.wsct-cert.com

/	Polarization	Vertical	Test Mode	TX /Mode 3-1Mbps(CH78)	9
	Temperature	20 ℃	Relative Humidity	48%	
	Pressure	1010 hPa		×	

	Meter	AW5	Emission	WSET		4W5L7
Frequency	Reading	Factor	Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	7 1
2483.5	62.20	-8.17	54.03	74	19.97	peak
2483.5	53.86	-8.17	45.69	54	8.31	AVG
	X			X		\times
4		h				

Remark

Factor = Antenna Factor + Cable Loss - Pre-amplifier.

All the x/y/z orientation has been investigated, and only worst case is presented in this report.

	0		0	
_	Polarization	Horizontal	Test Mode	TX /Mode 3-1Mbps(CH78)
	Temperature	20 ℃	Relative Humidity	48%
	Pressure	1010 hPa		

١							4W5/4	
	Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type	\
	(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	7 1	
	2483.5	64.72 W	547-8.17	56.55 5 C	74	17.45	peak	V
	2483.5	53.04	-8.17	44.87	54	9.13	AVG	
	/	VSCT	WS		WSET		WSCT	

Remark:

Certification &

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

All the x/y/z orientation has been investigated, and only worst case is presented in this report.

WSET WSET WSET WSET

WSET WSET WSET

WSET WSET WSET







For Question,
Please Contact with WSCT
www.wsct-cert.com

Test result for 2Mbps Mode:

Polarization	Vertical	Test Mode	TX /Mode1-2Mbps(CH0)
Temperature	20 ℃	Relative Humidity	48%
Pressure	1010 hPa		

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Type
0007	00.04	0.70			20.40	
2387	60.64	-8.76	51.88	74	22.12	peak
2387	55.14	-8.76	46.38	54	7.62	AVG
2390	60.67	-8.73	51.94	74	22.06	peak
2390	55.92	-8.73	47.19	54	6.81	AVG

Remark:

Factor = Antenna Factor + Cable Loss - Pre-amplifier.

All the x/y/z orientation has been investigated, and only worst case is presented in this report.

Polarization	Horizontal		Test Mode	TX /Mode1-2Mbps(CH0)
Temperature	20 ℃		Relative Humidity	48%
Pressure	1010 hPa	WE CT		AVECT.

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	5 (dB)	(dBµV/m)	(dBµV/m)	(dB)	
2384	62.49	-8.76	53.73	74	20.27	peak
2384	54.43	-8.76	45.67	54	8.33	AVG
2390	60.21	-8.73	51.48	74	22.52	peak
2390	56.87	-8.73	48.14	54	5.86	AVG

Remark:

Factor = Antenna Factor + Cable Loss - Pre-amplifier.

All the x/y/z orientation has been investigated, and only worst case is presented in this report.

Certification WSET WSET

WSET

W5E

W5LT

世标检测认证股份 Testing Group Co.,Ltd. ADD:Building A-B Baoshi Science & technology Park, Baoshi Road, Bao'an District, Shenzhen, Guangdong, China TEL:86-755-26996143/26996144/26996145/26996192 FAX:86-755-86376605 E-mail:Fengbing.Wang@wsct-cert.com Http://www.wsct-cert.com

9







For Question,
Please Contact with WSCT
www.wsct-cert.com

Polarization	Vertical	Test Mode	TX /Mode3-2Mbps(CH78)	1
Temperature	20 ℃	Relative Humidity	48%	
Pressure	1010 hPa		X	

		2 Mator	JW 5	Fraincian	-4W5/7		AW5/7
	Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
	(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	7
/	2483.5	60.33	-8.17	52.16	74	21.84	peak
	2483.5	53.97	-8.17	45.80	54	8.20	AVG
		X			X		X
	4		- A			<u> </u>	

Remark:

Factor = Antenna Factor + Cable Loss - Pre-amplifier.

All the x/y/z orientation has been investigated, and only worst case is presented in this report.

Polarization	Horizontal	Test Mode	TX /Mode3-2Mbps(CH78)
Temperature	20 ℃	Relative Humidity	48%
Pressure	1010 hPa		

١							4W5//	
	Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type	\
	(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
	2483.5	62.98 W	547-8.17	54.815	74	19.19	peak	Y
	2483.5	53.97	-8.17	45.80	54	8.20	AVG	
	/	VSCT	WS		WSET		WSIT	

Remark:

Certification &

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

All the x/y/z orientation has been investigated, and only worst case is presented in this report.

WSET WSET WSET WSET

WSET WSET WSET WSET

WSET WSET WSET

ター 世标检测认证股份 ADD:Building A-B Baosh

esting Group Co.,Ltd.







Test result for 3Mbps Mode:

For Question, Please Contact with WSCT www.wsct-cert.com

1	Polarization	Vertical	Test Mode	TX /Model 1-3Mbps(CH0)
_	Temperature	20 ℃	Relative Humidity	48%
	Pressure	1010 hPa		

		Meter	W5	Emission	_AWSET		WSET N
	Frequency	Reading	Factor	Level	Limits	Margin	Detector
	(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Type
1	2387	61.88	-8.76	53.12	74	20.88	peak
	2387	56.71	-8.76	47.95	54	6.05	AVG
	2390	59.91	-8.73	51.18	74	22.82	peak
	2390	55.36	-8.73	46.63	54	7.37	AVG

Remark:

Factor = Antenna Factor + Cable Loss - Pre-amplifier.

All the x/y/z orientation has been investigated, and only worst case is presented in this report.

Polarization	Horizontal	Test Mode	TX /Mode 1-3Mbps(CH0)
Temperature	20 ℃	Relative Humidity	48%
Pressure	1010 hPa		X

١.							AMAGIA
	Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector
	(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре
/	2384	61.42	-8.76	52.665	74	21.34	peak
	2384	54.82	-8.76	46.06	54	7.94	AVG
	2390	62.44	-8.73	53.71	74	20.29	peak
	2390	55.93	-8.73	47.20	54	6.80	AVG

Remark:

Certification &

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

All the x/y/z orientation has been investigated, and only worst case is presented in this report.

世标检测认证股份







For Question,
Please Contact with WSCT
www.wsct-cert.com

Polarization	Vertical	Test Mode	TX /Model 3-3Mbps(CH78)
Temperature	20 ℃	Relative Humidity	48%
Pressure	1010 hPa		X

	Meter	W5	Emission	WSLT		4W567
Frequency	Reading	Factor	Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	71
2483.5	62.28	-8.17	54.11	74	19.89	peak
2483.5	54.95	-8.17	46.78	54	7.22	AVG
	X	\rightarrow		X		X
h					A	

Remark:

Factor = Antenna Factor + Cable Loss - Pre-amplifier.

All the x/y/z orientation has been investigated, and only worst case is presented in this report.

WELT	WELT	NECT	WELL
Polarization	Horizontal	Test Mode	TX /Model 3-3Mbps(CH78)
Temperature	20 ℃	Relative Humidity	48%
Pressure	1010 hPa		

	Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
	(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	7, 1
_	2483.5	61.78	-8.17	53.61	74	20.39	peak
	2483.5	53.54	-8.17	45.37	54	8.63	AVG
1		VSET "	W5	CT"	W5ET		AWSET N

Remark:

Certification

Factor = Antenna Factor + Cable Loss - Pre-amplifier.

All the x/y/z orientation has been investigated, and only worst case is presented in this report.

VSET WSET WSE

ADD:Building A-B Baoshi Science & technology Park, Baoshi Road, Bao'an District, Shenzhen, Guangdong, China TEL:86-755-26996143/26996144/26996145/26996192 FAX:86-755-86376605 E-mail:Fengbing.Wang@wsct-cert.com Http://www.wsct-cert.com

Member of the WSCT INC

Report No.:FCC18080068A-BT

Page 29 of 81







For Question,
Please Contact with WSCT
www.wsct-cert.com

Test result for hopping mode:

Polarization	Vertical 5 7	Test Mode	hopping mode-1Mbps
Temperature	20 ℃	Relative Humidity	48%
Pressure	1010 hPa		X

								4.0
	Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector	
	(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Type	
1	2387	64.63	-8.76	55.87	74	18.13	peak	f
_	2387	54.83	-8.76	46.07	54	7.93	AVG	f
	2390	59.40	-8.73	50.67	74	23.33	peak	l
	2390	57.68	-8.73	48.95	54	5.05	AVG	Ī
								41

Remark:

Factor = Antenna Factor + Cable Loss - Pre-amplifier.

All the x/y/z orientation has been investigated, and only worst case is presented in this report.

/	Polarization	Horizontal	Test Mode	Hopping mode-1Mbps
	Temperature	20 ℃	Relative Humidity	48%
	Pressure	1010 hPa		\times

-		Meter		Emission	=/W5LT		4W5L7
	Frequency	Reading	Factor	Level	Limits	Margin	Detector
	(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Type
	2387	63.69	-8.76	54.93	74	19.07	peak
	2387	55.47	-8.76	46.71	54	7.29	AVG
	2390	62.11	-8.73	53.38	74	20.62	peak
	2390	57.98	-8.73	49.25	54	4.75	AVG

Remark:

Certification

Factor = Antenna Factor + Cable Loss - Pre-amplifier.

All the x/y/z orientation has been investigated, and only worst case is presented in this report.

WSET WSET WSET WSET

WSET WSET WSET

VSET WSET WSET

世标检测认证股份 ADD:Building A-B Baoshi Science & technology Park, Baoshi Road, Bao'an District, Shenzhen, Guangdong, China







For Question,
Please Contact with WSCT
www.wsct-cert.com

Polarization	Vertical	Test Mode	Hopping mode-1Mbps
Temperature	20 ℃	Relative Humidity	48%
Pressure	1010 hPa		X

200		2000			V4	
	Meter		Emission	AW5LI		AWSLI NO
Frequency	Reading	Factor	Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	71
2483.5	62.21	-8.17	54.04	74	19.96	peak
2483.5	54.30	-8.17	46.13	54	7.87	AVG
	X	\rightarrow		X		X
4		<u> </u>			A	

Remark:

Factor = Antenna Factor + Cable Loss - Pre-amplifier.

All the x/y/z orientation has been investigated, and only worst case is presented in this report.

WELT	WELL	C/T	WELT
Polarization	Horizontal	Test Mode	Hopping mode-1Mbps
Temperature	20 ℃	Relative Humidity	48%
Pressure	1010 hPa		

	Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
	(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
_	2483.5	61.02	-8.17	52.85	74	21.15	peak
	2483.5	54.05	-8.17	45.88	54	8.12	AVG
\		VSET"	W5	<i>[7</i>	WSET		WSET \

Remark:

Certification

Factor = Antenna Factor + Cable Loss - Pre-amplifier.

All the x/y/z orientation has been investigated, and only worst case is presented in this report.

WSITE WSITE WSITE

SET WSET

WSET WSET

ADD:Building A-B Baoshi Science & technology Park, Baoshi Road, Bao'an District, Shenzhen, Guangdong, China TEL:86-755-26996143/26996145/26996192 FAX:86-755-86376605 E-mail:Fengbing.Wang@wsct-cert.com Http://www.wsct-cert.com

世标检测认证股份





5. NUMBER OF HOPPING CHANNEL

5.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C						
Section 5	Test Item	Limit	Frequency Range (MHz)	Result		
15.247 (a)(1)(iii)	Number of Hopping Channel	≥15	2400-2483.5	PASS		

Spectrum Parameters		Setting
	Attenuation	Auto
	Span Frequency	> Operating Frequency Range
	RB	1MHz
	VB	3MHz
	Detector	Peak
Trace		Max Hold
	Sweep Time	Auto

5.1.1 TEST PROCEDURE

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- b. Spectrum Setting: RBW= 1MHz, VBW=3MHz, Sweep time = Auto.

5.1.2 DEVIATION FROM STANDARD

No deviation.

5.1.3 TEST SETUP

EUT	SPECTRUM	
	ANALYZER	

5.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

WSCT Certification & Regulation of the Control of t

则认证股份 up Co..Ltd.



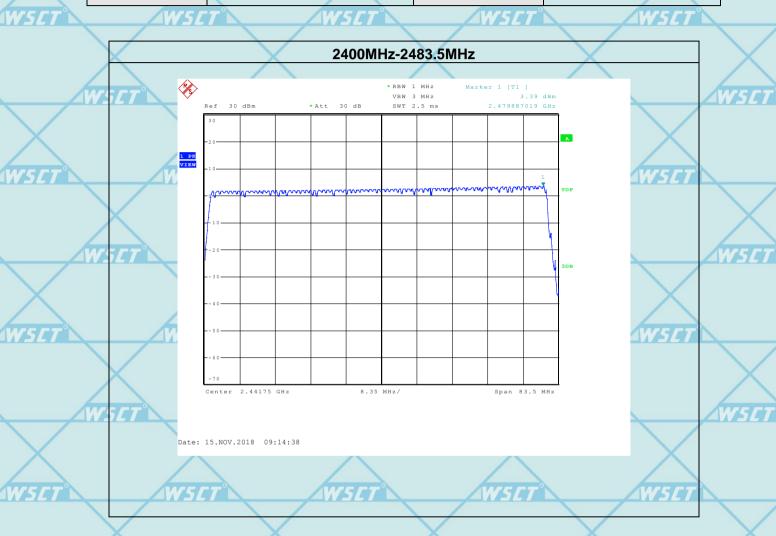
TESTING
NVLAP LAB CODE 600142-0



5.2 TEST RESULTS

For Question,
Please Contact with WSCT
www.wsct-cert.com

Number of	70 W5ET	Test Mode	Hopping Mode	V
Hopping Channel		Test Mode	riopping Mode	
Temperature	25 ℃	Relative Humidity	60%	
Pressure	1015 hPa			



WSCT WSCT WSCT WSCT

WSET GOLD

WSIT

ADD:Building A-B Baoshi Science & technology Park, Baoshi Road, Bao'an District, Shenzhen, Guangdong, China TEL:86-755-26996143/26996144/26996145/26996192 FAX:86-755-86376605 E-mail:Fengbing.Wang@wsct-cert.com Http://www.wsct-cert.com

Member of the WSCT INC

世标检测认证股份







6. AVERAGE TIME OF OCCUPANCY

6.1 APPLIED PROCEDURES / LIMIT

For Question,
Please Contact with WSCT
www.wsct-cert.com

	FCC Part15 (15.247) , Subpart C					
4	Section	Test Item	Limit	Frequency Range (MHz)	Result	
	15.247 (a)(1)(iii)	Average Time of Occupancy	0.4sec	2400-2483.5	PASS	

6.1.2 TEST PROCEDURE

- a. The EUT test port was connected to the spectrum analyzer with RF cable and antenna connector.
- b. Set RBW of spectrum analyzer to 1MHz and VBW to 3MHz.
- c. Use a video trigger with the trigger level set to enable triggering only on full pulses.
- d. Sweep Time is more than once pulse time.
- e. Set the center frequency on any frequency would be measure and set the frequency span to zero span.
- f. Measure the maximum time duration of one single pulse.
- g. Set the EUT for DH5, DH3 and DH1 packet transmitting.
- h. Measure the maximum time duration of one single pulse.
- i. DH1 Dwell time = Pulse time*(1600/2/79)*31.6S
 - DH3 Dwell time = Pulse time*(1600/4/79)*31.6S
 - DH5 Dwell time = Pulse time*(1600/6/79)*31.6S

6.1.3 DEVIATION FROM STANDARD

No deviation. W557 W557

WSCT WSCT WSCT WSCT

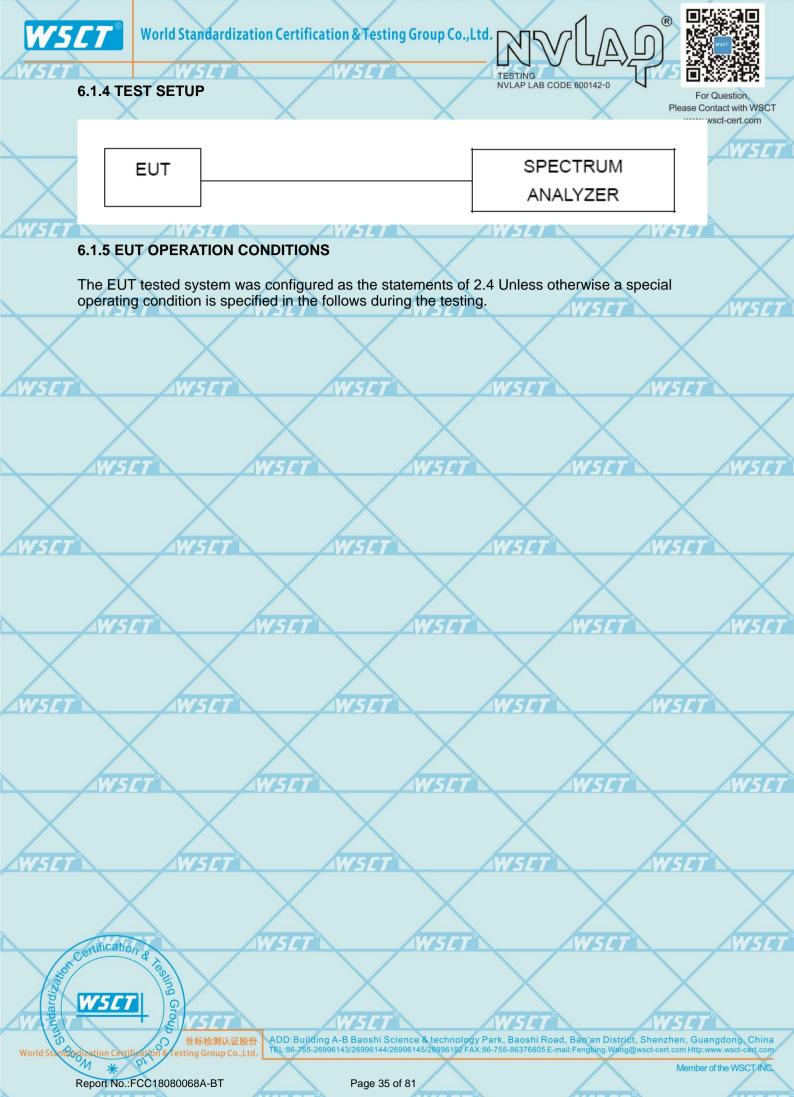
WSET WSET WSET WSET WSET

WSET WSET WSET WSET

WSET WSET WSET

世标检测认证股份
ADD:Building A-B Baoshi Science & technology Park, Baoshi Road, Bao'an District, Shenzhen, Guangdong, China

Certification









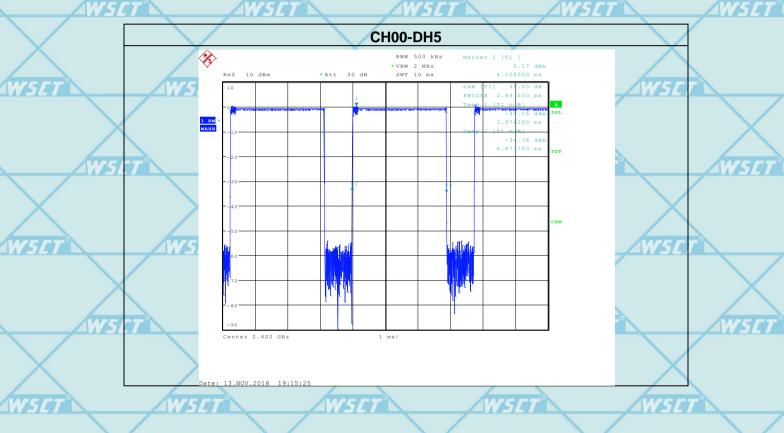
For Question,
Please Contact with WSCT
www.wsct-cert.com

6.2 TEST RESULTS

Note: the worst case is 1Mbps as result in this part.

Pressure	1012 hPa	Test Mode	DH5-1Mbps	1
Temperature	25 ℃	Relative Humidity	60%	

Data Packet	Frequency	Pulse time(ms)	Dwell Time(S)	Limits (S)
DH5	2402MHz	2.898	0.309	0.4
DH5	2441MHz	2.900	0.309	0.4
DH5	2480MHz	2.900	0.309	0.4



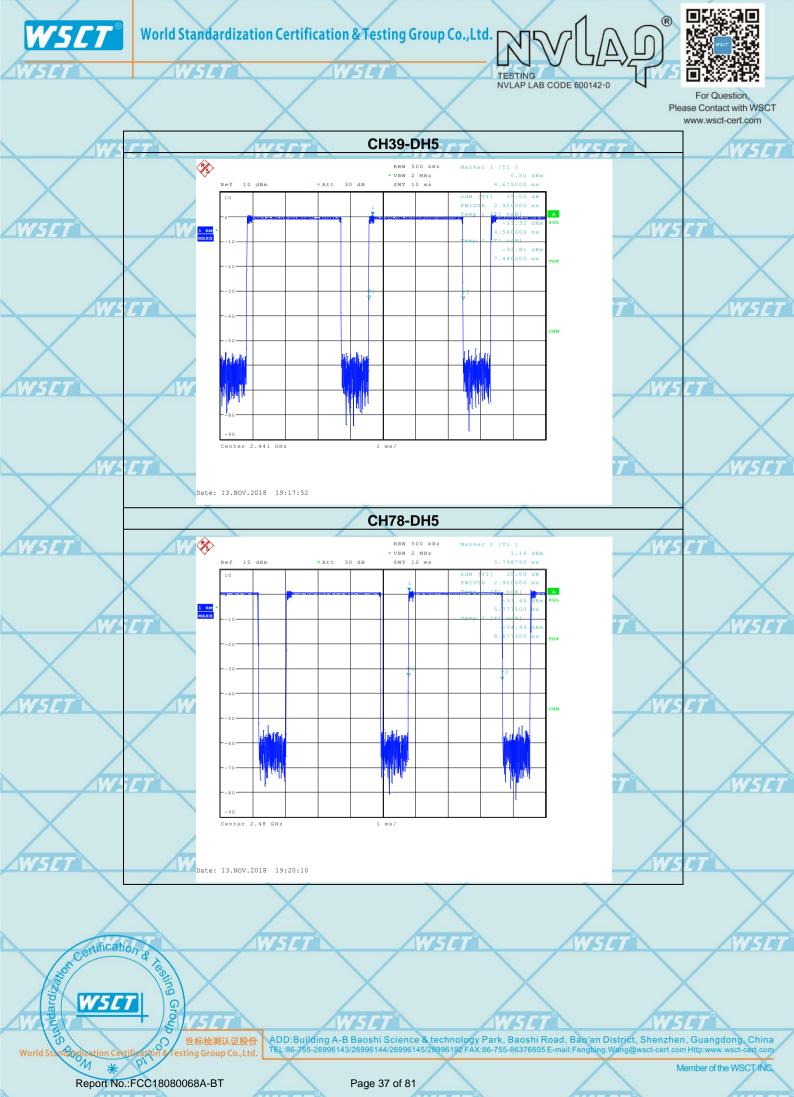


Certification WSET WSET WSET

世标检测认证股份
esting Group Co.,Ltd.

ADD:Building A-B Baoshi Science & technology Park, Baoshi Road, Bao'an District, Shenzhen, Guangdong, China
TEL:86-755-26996143/26996145/26996145/26996192 FAX:86-755-86376605 E-mail:Fengbing.Wang@wsct-cert.com Http://www.wsct-cert.com

Grou





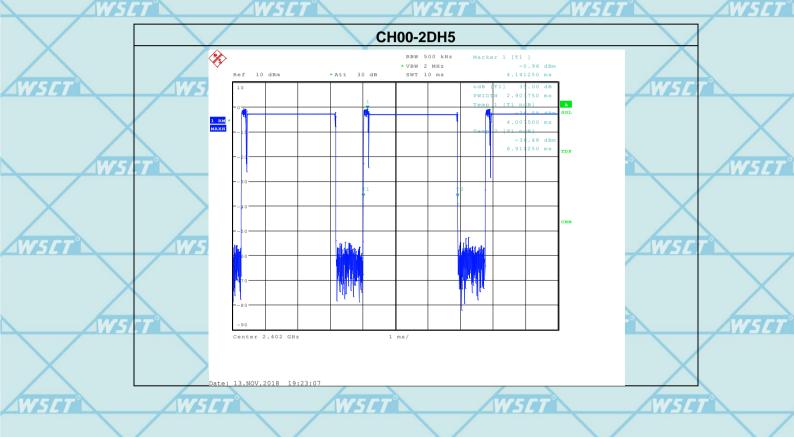




For Question,
Please Contact with WSCT
www.wsct-cert.com

Pressure	1012 hPa	Test Mode	2DH5-2Mbps
Temperature	25℃	Relative Humidity	60%

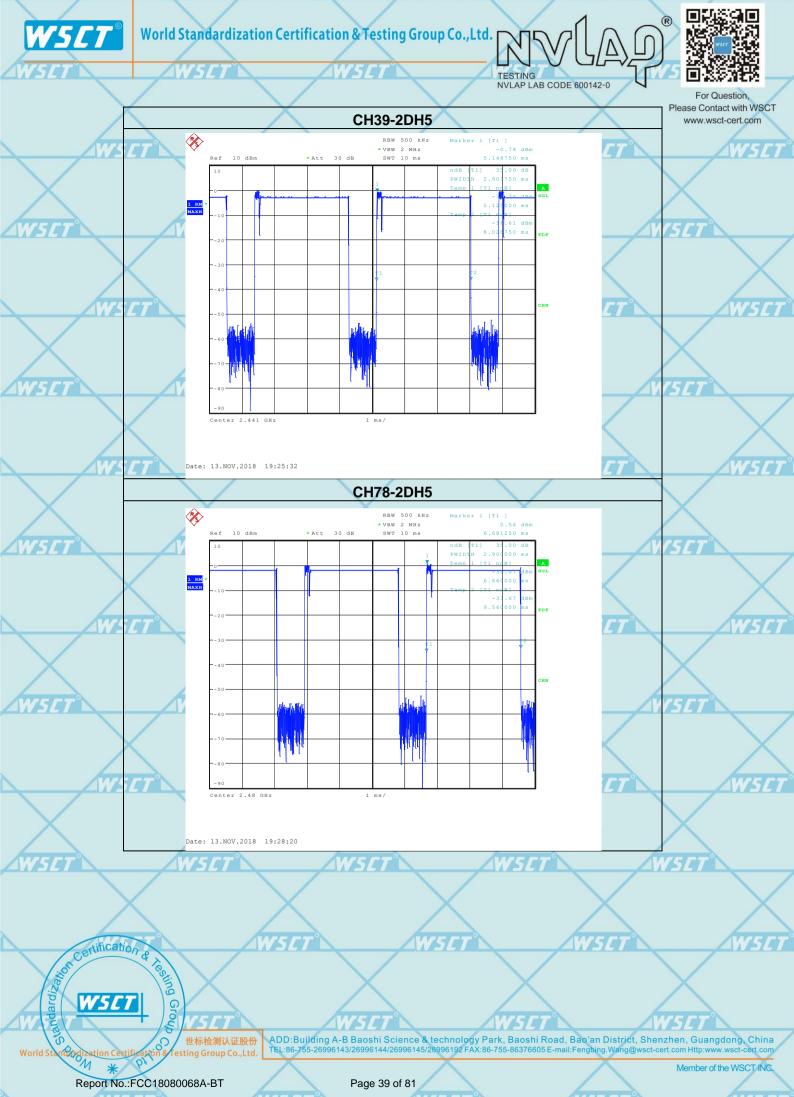
Data Packet	Frequency	Pulse time(ms)	Dwell Time(S)	Limits (S)
2DH5	2402MHz	2.904	0.310	0.4
2DH5	2441MHz	2.904	0.310	0.4
2DH5	2480MHz	2.900	0.309	0.4



	WSET	WSET	WSET	WSET	WSET
WSET	WSG			\times	WSET
	X	X	X	X	X

esting Group Co.,Ltd.

Certification





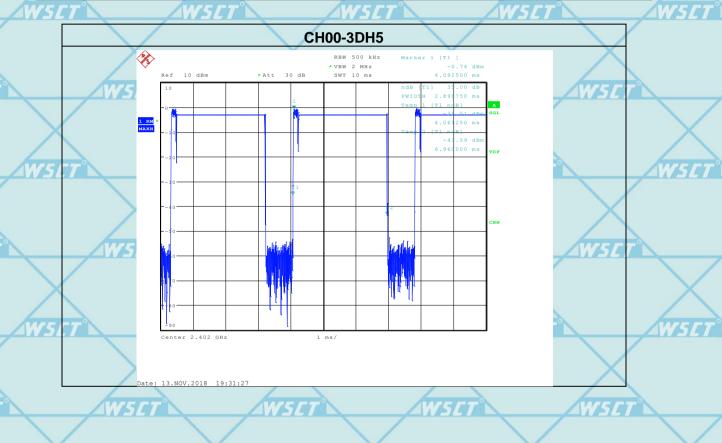




For Question,
Please Contact with WSCT
www.wsct-cert.com

Pressure	1012 hPa	Test Mode	3DH5-3Mbps
Temperature	25 ℃	Relative Humidity	60%

Data Packet	Frequency	Pulse time(ms)	Dwell Time(S)	Limits (S)
3DH5	2402MHz	2.899	0.309	0.4
3DH5	2441MHz	2.899	0.309	0.4
3DH5	2480MHz	2.903	0.309	0.4



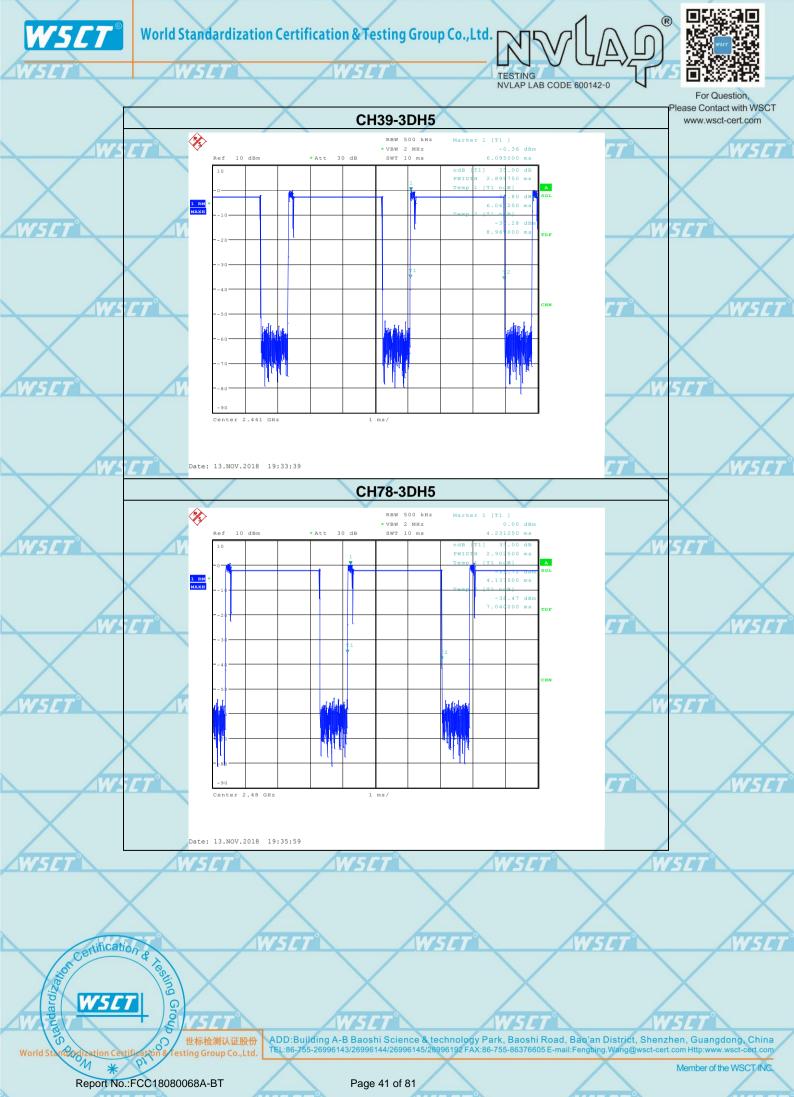


WSET WSET WSET WSET

WSET WSET WSET

世标检测认证股份 ADD:Building A-B Baoshi Science & technology Park, Baoshi Road, Bao'an District, Shenzhen, Guangdong, China esting Group Co.,Ltd. TEL:86-755-26996143/26996145/26996145/26996145/26996192 FAX:86-755-86376605 E-mail:Fengbing.Wang@wsct-cert.com Http://www.wsct-cert.com

Grou









6. HOPPING CHANNEL SEPARATION MEASUREMENT

6.1 APPLIED PROCEDURES / 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.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	> Measurement Bandwidth or Channel Separation
RB	Resolution (or IF) Bandwidth (RBW) ≥ 1% of the span
VB	Video (or Average) Bandwidth (VBW) ≥ RBW
Detector	Peak
Trace	Max hold
Sweep Time	WSLT AutoSLT WSLT

6.1.2 TEST PROCEDURE

- 1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
- Set the spectrum analyzer as follows: Span = wide enough to capture the peaks of two adjacent channels: Resolution (or IF) Bandwidth (RBW) ≥ 1% of the span; Video (or Average) Bandwidth (VBW) ≥ RBW; Sweep = auto; Detector function = peak; Trace = max hold
- 3. Measure the separation between the peaks of the adjacent channels using the marker-delta
- 4. Repeat above procedures until all frequencies measured were complete.

6.1.3 DEVIATION FROM STANDARD

No deviation.

6.1.4 TEST SETUP

EUT SPECTRUM ANALYZER

6.1.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

WSET

W5E







6.2 TEST RESULTS

For Question,
Please Contact with WSCT
www.wsct-cert.com

4	Pressure	1012 hPa [7]		CH00 / CH39 /CH78 (1Mbps Mode)	4
	Temperature	25 ℃	Relative Humidity	60%	
	Test Result	Pass			

Separation Read value Separation limit Channel number Channel frequency (MHz) (KHz) (KHz) 00 1000 20dB BW 2402 39 2441 1003 20dB BW 78 2480 1000 20dB BW

Note: 20db bandwidth refer to section9.6



WSET RESULTING GROUPS

SCT° WSCT°

AWSLT

W5C









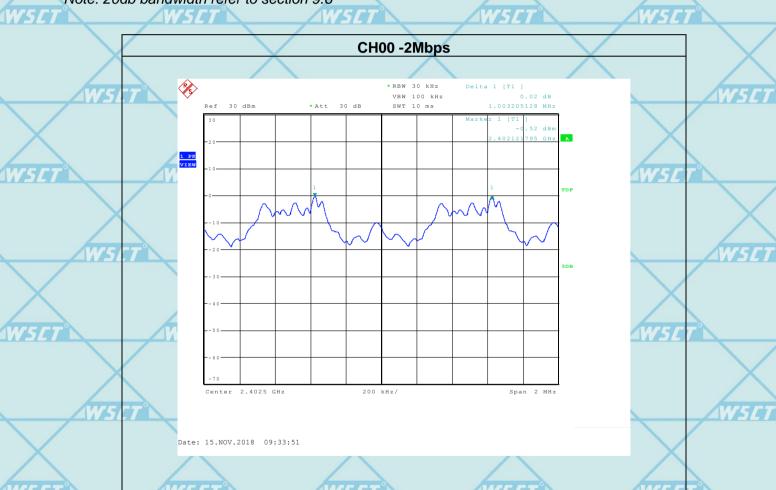


For Question,
Please Contact with WSCT
www.wsct-cert.com

4	Pressure	1012 hPa 77		CH00 / CH39 /CH78 (2Mbps Mode)
	Temperature	25 ℃	Relative Humidity	60%
	Test Result	Pass		

Separation Read value Separation limit Channel number Channel frequency (MHz) (KHz) (KHz) 00 1003 2/3 *20dB BW 2402 39 2441 1000 2/3 *20dB BW 78 2480 2/3 *20dB BW 1000

Note: 20db bandwidth refer to section 9.6



WSCT WSCT 世标检测











For Question,
Please Contact with WSCT
www.wsct-cert.com

_	Pressure	1012 hPa		CH00 / CH39 /CH78 (3Mbps Mode)	V
	Temperature	25 ℃	Relative Humidity	60%	
	Test Result	Pass			

Channel number	Channel frequency	Separation Read value	Separation limit
X	(MHz)	(KHz)	(KHz)
W5/T 00	2402	1000	2/3 *20dB BW
39	2441	1000	2/3 *20dB BW
78	2480	1000	2/3 *20dB BW

Note: 20db bandwidth refer to section 9.6



WSCT 世标检测认证股份

ET WSET

WSET

AWSE









7. BANDWIDTH TEST

7.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247), Subpart C				
Section Test Item Limit Frequency Range (MHz) Result				
15.247 (a)(1)	Bandwidth	(20dB bandwidth)	2400-2483.5	PASS

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	> Measurement Bandwidth or Channel Separation
RB	30kHz
VB	100 kHz
Detector	Peak
Trace	Max hold
Sweep Time	Auto

7.1.2 TEST PROCEDURE

- 1. Check the calibration of the measuring instrument (spectrum analyzer) using either an internal calibrator or a known signal from an external generator.
- Set the spectrum analyzer as follows: VBW =30kHz, RBW=100kHz, Sweep = auto Detector function = peak ,Trace = max hold
- 3. Measure the highest amplitude appearing on spectral display and record the level to calculate results
- 4. Repeat above procedures until all frequencies measured were complete.

7.1.3 DEVIATION FROM STANDARD

No deviation.

ertification

7.1.4 TEST SETUP

EUT SPECTRUM ANALYZER

7.1.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

世标检测认证股份



TESTING
NVLAP LAB CODE 600142-0



For Question,
Please Contact with WSCT
www.wsct-cert.com

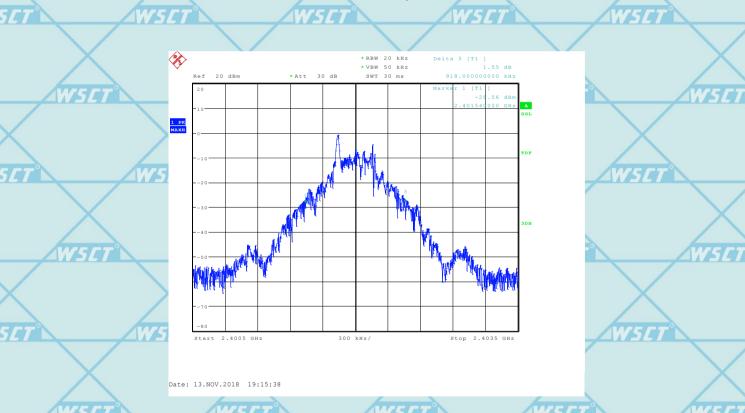
7.2 TEST RESULTS

Note: the worst case is DH5 as result in this part.

Pressure	1012 hPa	Test Mode	CH00/CH39/C78(1Mbps)
Temperature	25 ℃	Relative Humidity	60%

Frequency	Frequency 20dB Bandwidth	
	(MHz)	
2402 MHz	0.918	PASS
2441 MHz	0.936	PASS
2480 MHz	0.941	PASS

CH00 -1Mbps

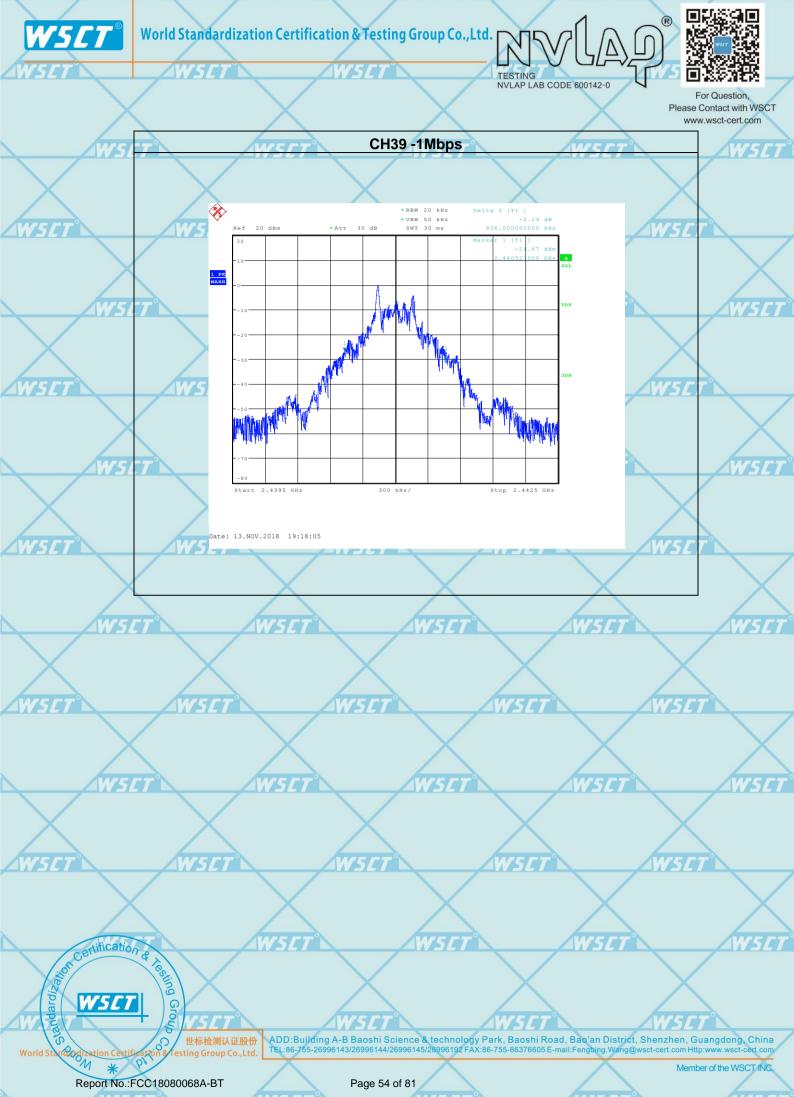


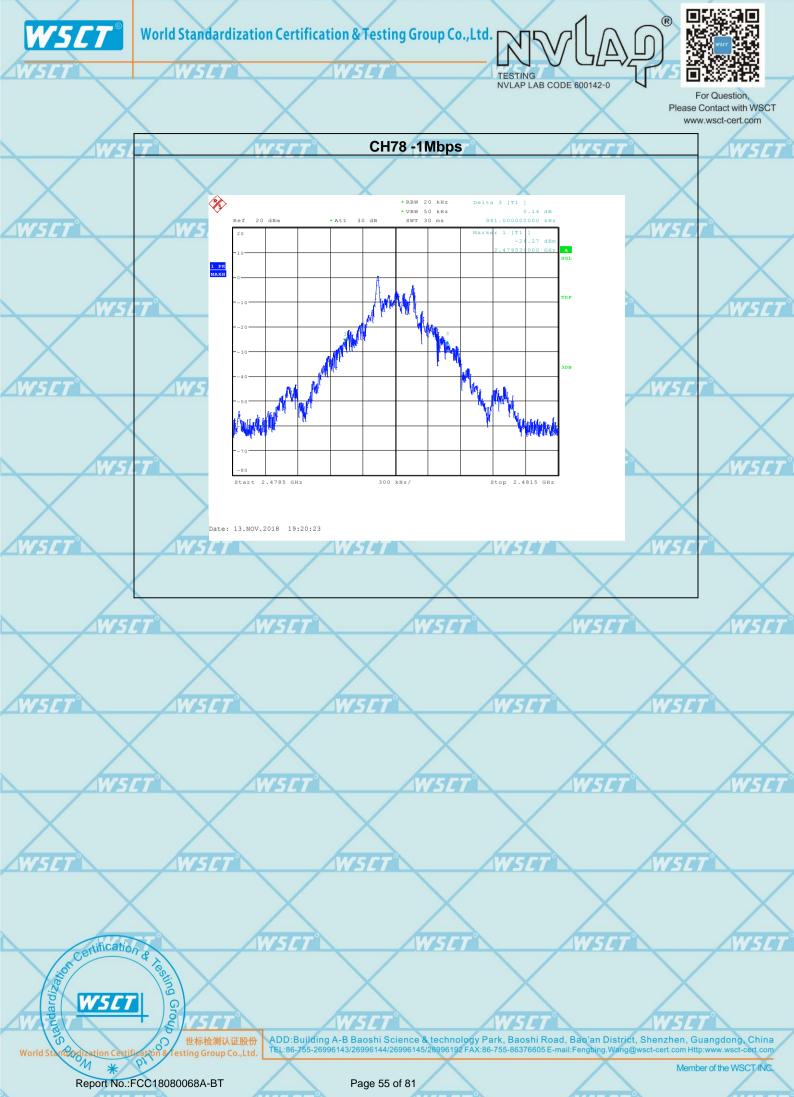
WSCT WSCT WSCT WSCT WSCT

WSCT WSCT WSCT

世标检测认证股份
TEL:86-755-26996143/26996144/26996145/26996145/26996192 FAX:86-755-86376605 E-mail:Fengbing.Wang@wsct-cert.com Http://www.wsct-cert.com

Grou







TESTING
NVLAP LAB CODE 600142-0



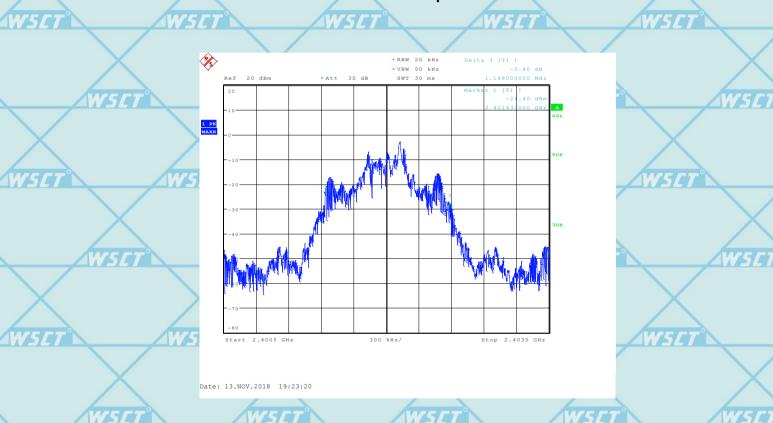
For Question,
Please Contact with WSCT
www.wsct-cert.com

Note: the worst case is DH5as result in this part.

1	Pressure	1012 hPa	Test Mode	CH00/CH39/C78(2Mbps)
	Temperature	25 ℃	Relative Humidity	60%

Frequency	20dB Bandw (MHz)	idth Result	WSET
2402 MHz	1.148	PASS	
2441 MHz	1.172	PASS	
2480 MHz	1.243	PASS	10

CH00 -2Mbps



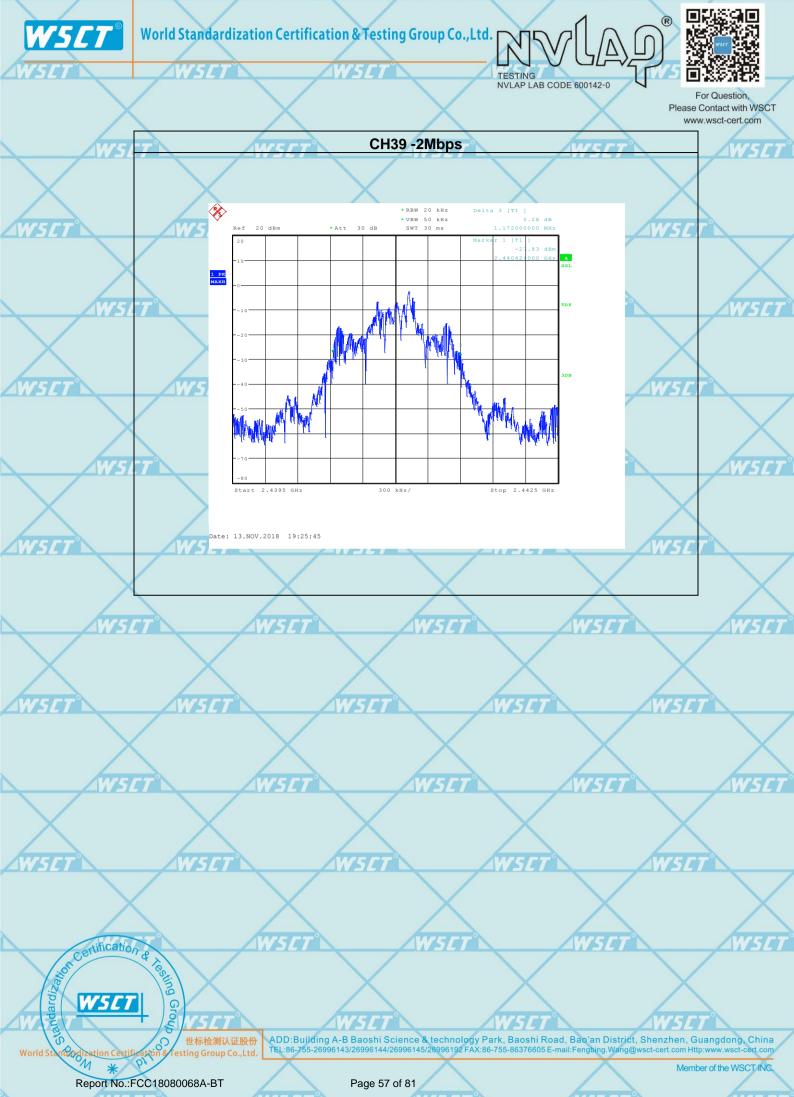
 \times \times \times \times

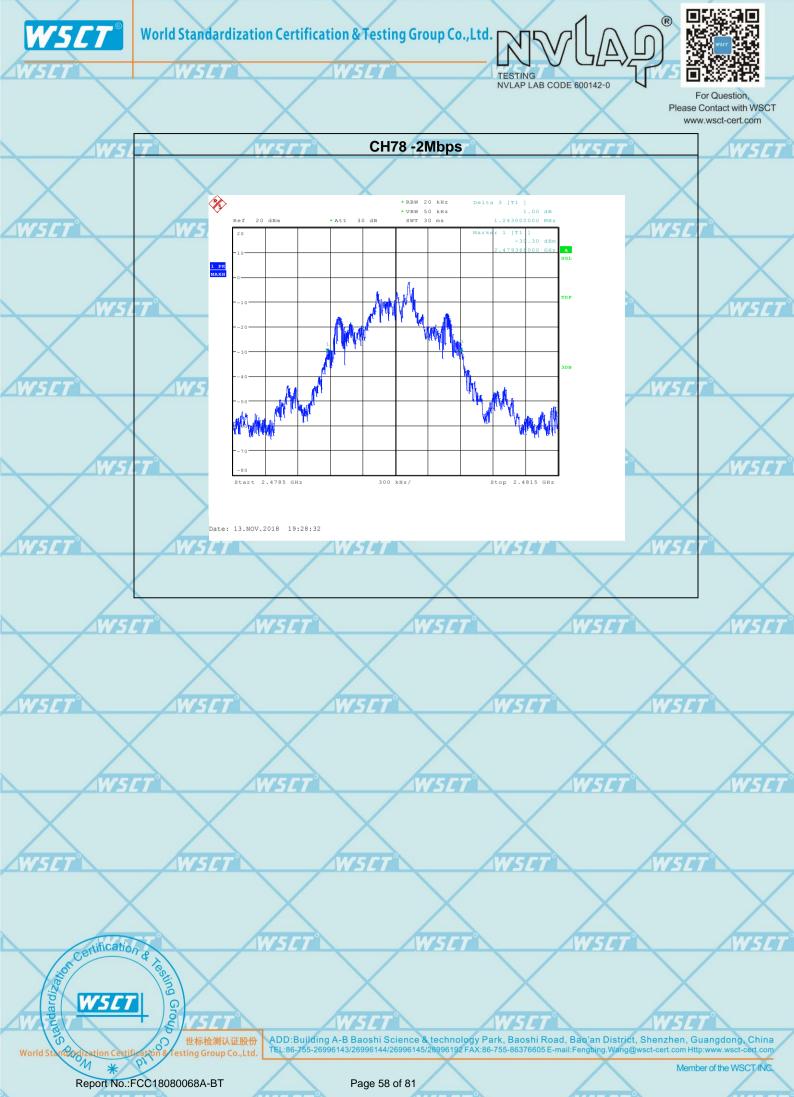
WSET WSET WSET WSET

WSCT WSCT WSCT

ルタファ W5CT 世标检測认证股份 ADD:Building A-B Baoshi Science & tecl

ADD:Building A-B Baoshi Science & technology Park, Baoshi Road, Bao'an District, Shenzhen, Guangdong, China TEL:86-755-26996143/26996144/26996145/26996192 FAX:86-755-86376605 E-mail:Fengbing.Wang@wsct-cert.com Http://www.wsct-cert.com











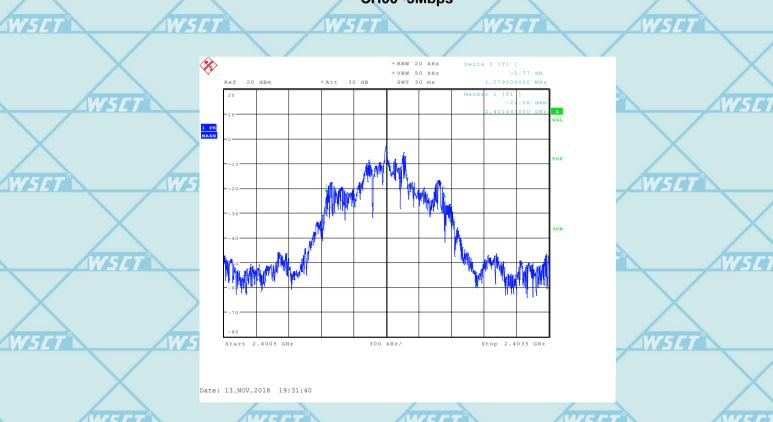
For Question, Please Contact with WSCT www.wsct-cert.com

Note: the worst case is DH5as result in this part.

Pressure	1012 hPa	Test Mode	CH00/CH39/C78(3Mbps)
Temperature	25 ℃	Relative Humidity	60%

_	Frequency	20dB Bandwidth (MHz)	Result W5[7]	
	2402 MHz	1.079	PASS	
	2441 MHz	1.081	PASS	
	W52480 MHz	1.082	PASS	V.

CH00 -3Mbps



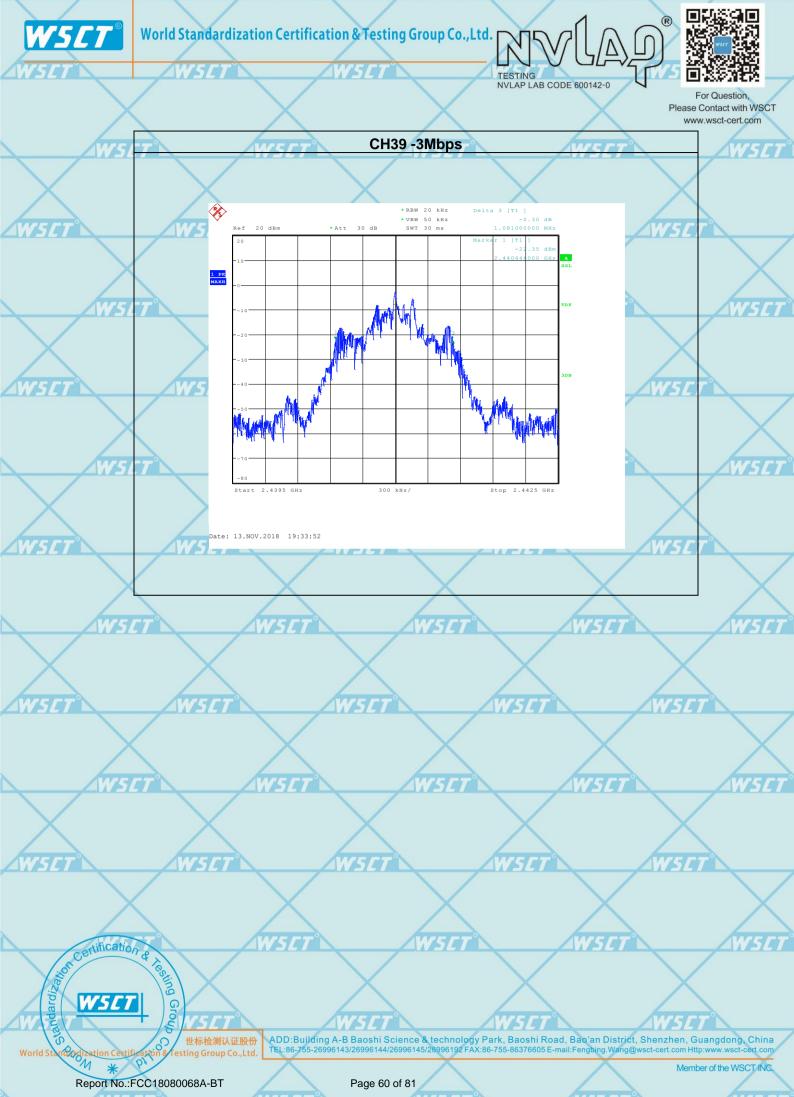
WSET WSET WSET WSET WSE

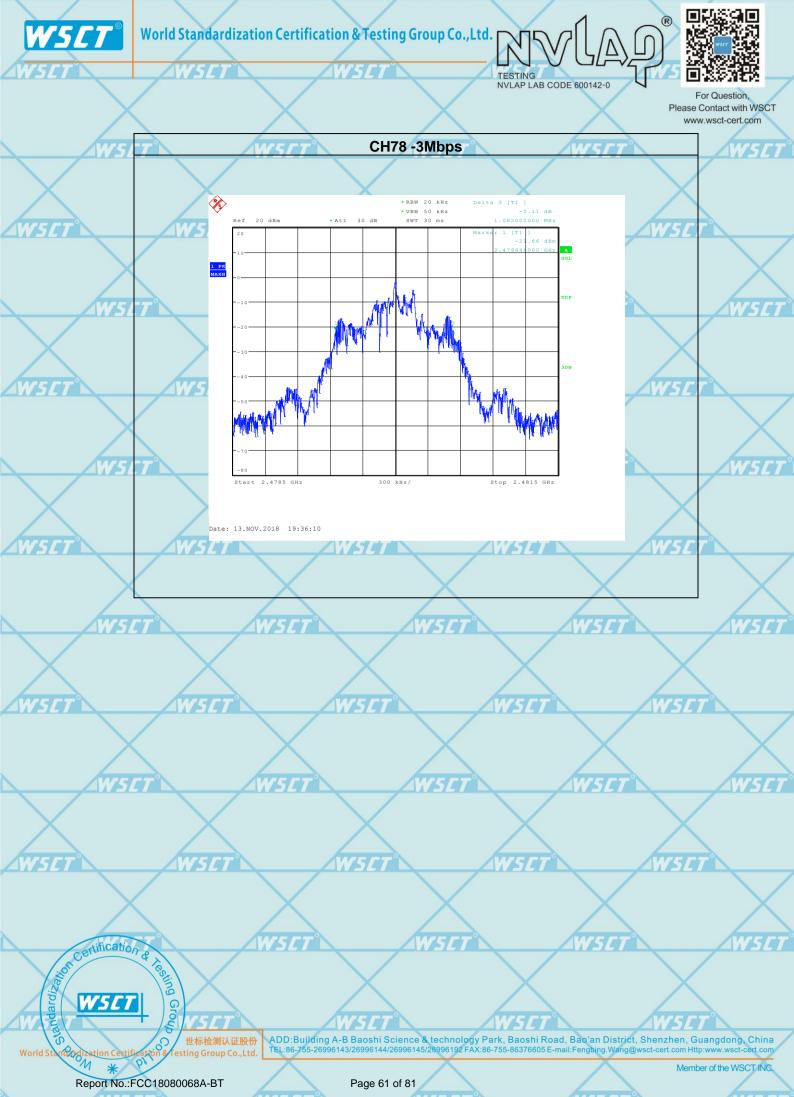
WSCT WSCT WSCT WSCT WSCT

WSET WSET

 \times \times \times

世标检测认证股份
ADD:Building A-B Baoshi Science & technology Park, Baoshi Road, Bao'an District, Shenzhen, Guangdong, China
TEL:86-755-26996143/26996144/26996145/26996145/26996192 FAX:86-755-86376605 E-mail:Fengbing.Wang@wsct-cert.com Http://www.wsct-cert.com











For Question,
Please Contact with WSCT

8. PEAK OUTPUT POWER TEST

8.1 APPLIED PROCEDURES / LIMIT

ı	APPLIED PROCED	UKES / LIMIT			www.wsct-ce	ert.com
	FCC Part15 (15.247), Subpart C					
4	NOL I					N5L
	Section	Test Item	Limit	Frequency Range (MHz)	Result	
	15.247 (b)(i)	Peak Output Power	1W for 1Mbps 0.125Wfor2/3Mbps	2400-2483.5	PASS	

8.1.2 TEST PROCEDURE

- a. The EUT was directly connected to the spectrum analyze rand antenna output port as show in the block diagram below,
- b. Setting: RBW ≥ the 20 dB bandwidth of the emission being measured

Span ≥ approximately 3 times the 20 dB bandwidth, centered on a hop ping channel

VBW ≥ RBW

Sweep = auto

Detector function = peak

Trace = max hold

8.1.3 DEVIATION FROM STANDARD

No deviation.

8.1.4 TEST SETUP

EUT		Spectrum
	6	analyzer

8.1.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

VSET

ET° W5

WSET.

W5E

标检测认证股份 a Group Co..Ltd. ADD:Building A-B Baoshi Science & technology Park, Baoshi Road, Bao'an District, Shenzhen, Guangdong, Chir TEL:86-755-26996143/26996144/26996145/26996192 FAX:86-755-86376605 E-mail:Fendbing,Wang@wsct-cert.com Http://www.wsct-cert.com

ertification







8.2 TEST RESULTS

For Question, Please Contact with WSCT

/	Pressure	1012 hPa		CH00/ CH39 /CH78 (1M/2M/3Mbps Mode)	ert.com
	Temperature	25 ℃	Relative Humidity	60%	A AC

Test Channel	Frequency (MHz)	Peak Output Power (dBm)	LIMIT(dBm)	Result
		1Mbps		
CH00	2402	-0.62	30	Pass
CH39	2441	-0.23	30 W57	Pass
CH78	2480	0.71	30	Pass
2Mbps			X	
CH00	2402	-1.26	20.97	Pass
CH39	2441	-0.96	20.97	Pass
CH78	2480	0.25	20.97	Pass
3Mbps				
W5CCH00	2402	-1.28	20.97 <i>N5L</i>	Pass
CH39	2441	-0.99	20.97	Pass
CH78	2480	-0.15	20.97	Pass

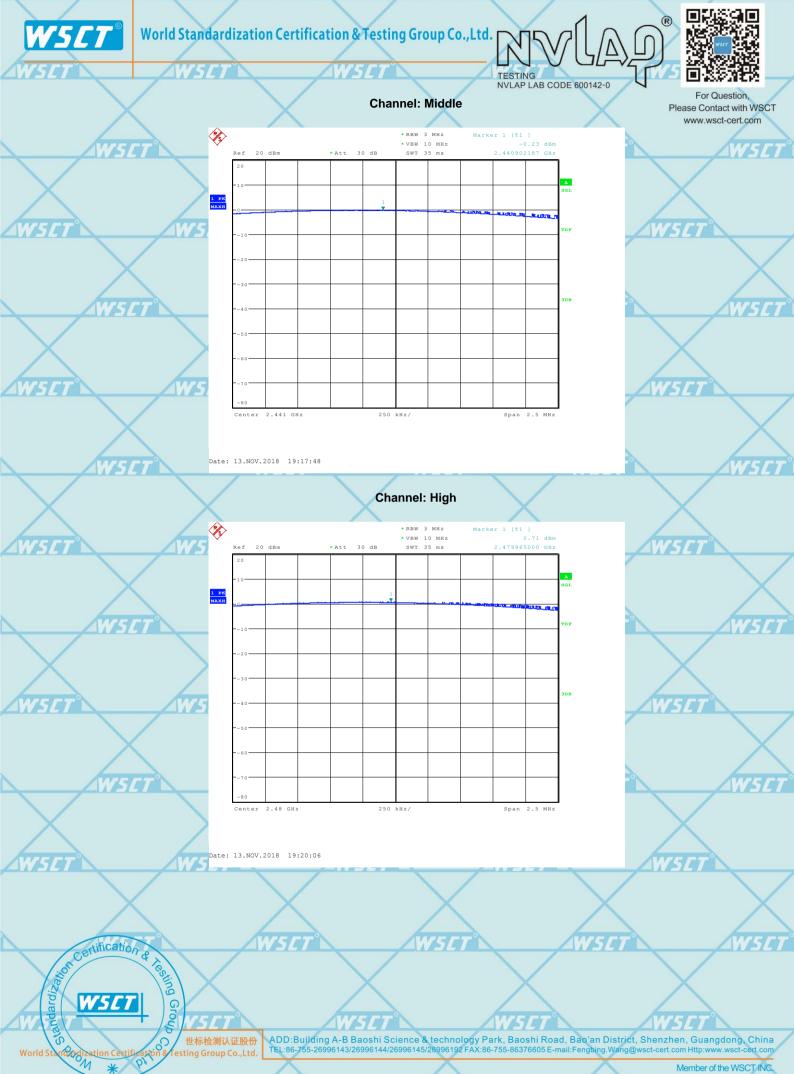
1Mbps Channel: Low

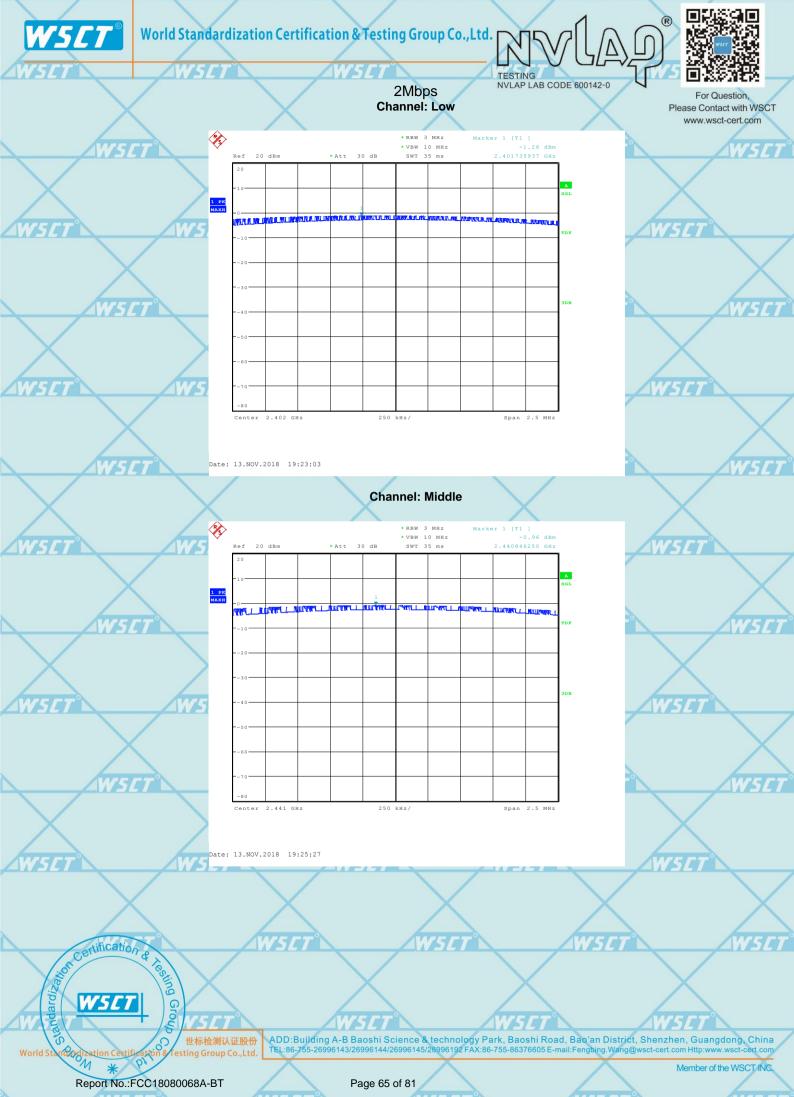


Date: 13.NOV.2018 19:15:21

世标检测认证股份
ADD:Building A-B Baoshi Science & technology Park, Baoshi Road, Bao'an District, Shenzhen, Guangdong, China
TEL:86-755-26996143/26996145/26996192 FAX:86-755-86376605 E-mail:Fengbing.Wang@wsct-cert.com Http://www.wsct-cert.com

Grou













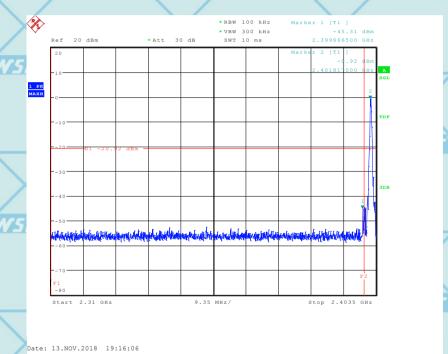
9. 100KHZ BAND EDGES MEASUREMENT

9.1 APPLIED PROCEDURES / LIMIT

AWSET"

	FCC Part15 (15.247), Subpart C				
1	Section 5	Test Item	NSET Limit	Frequency Range (MHz)	Result
	15.247(d)	Band Edges Measurement	(20dB bandwidth)	2400-2483.5	PASS





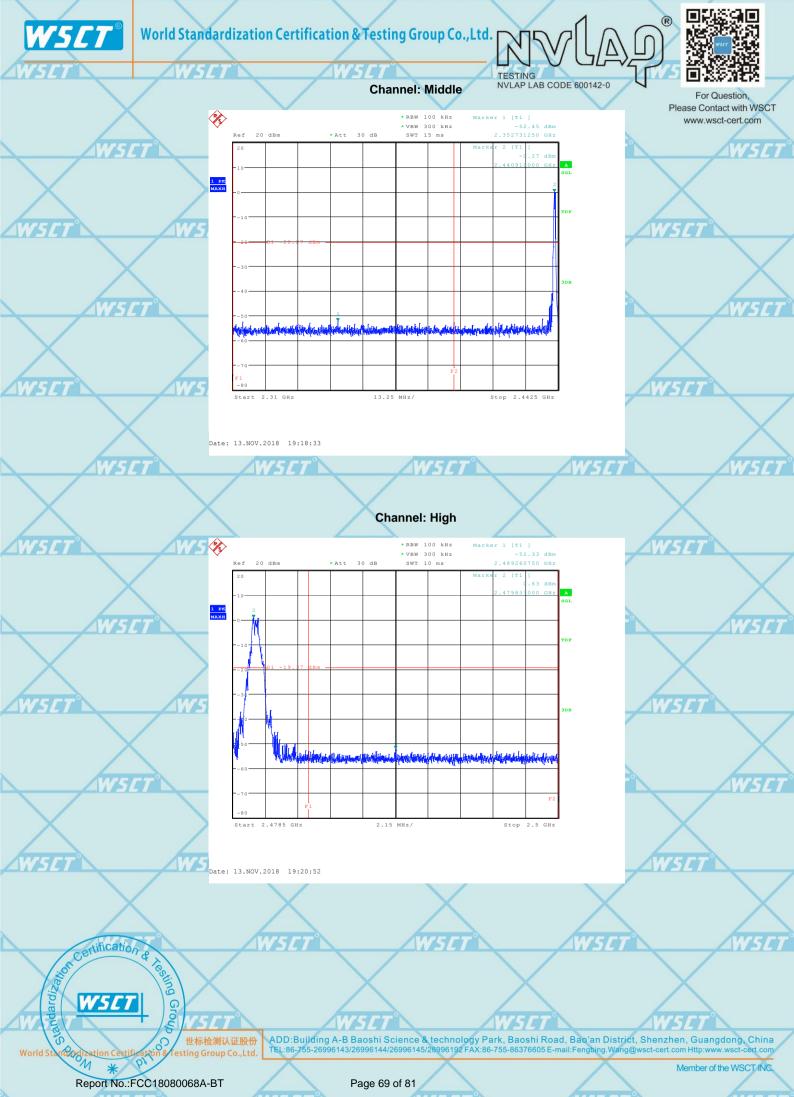
WSET WSET WSET

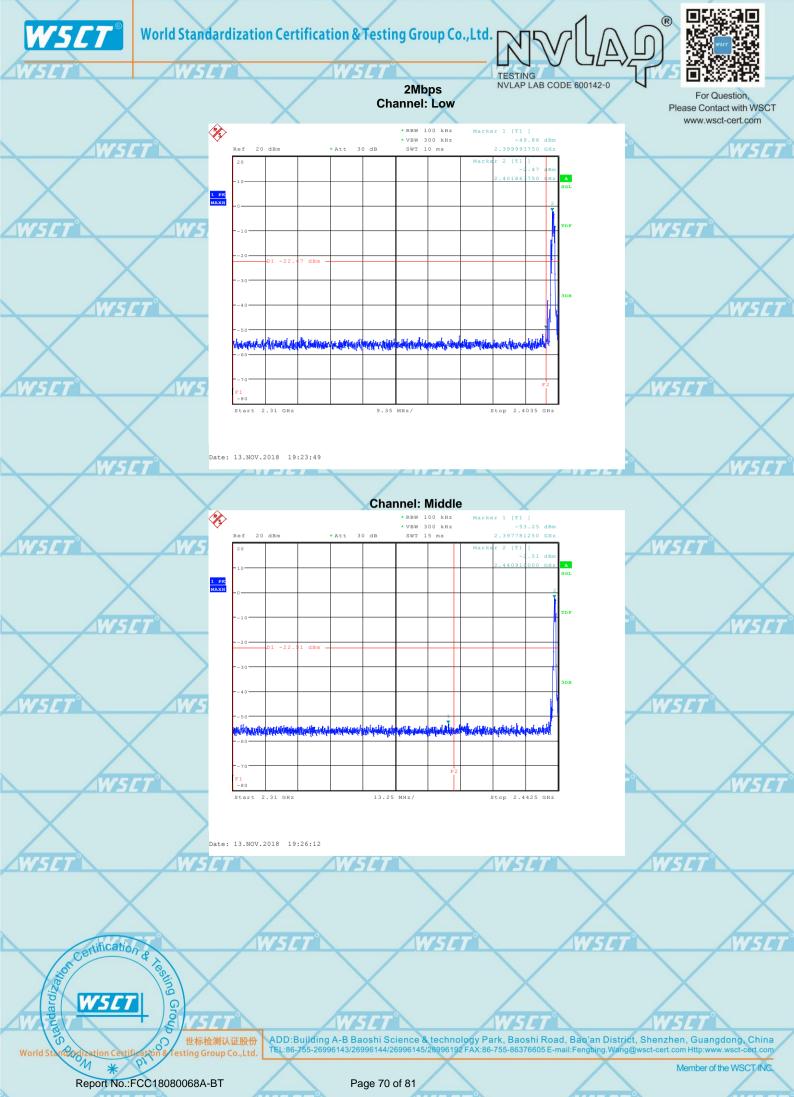
WSET WSET WSET WSET WSET

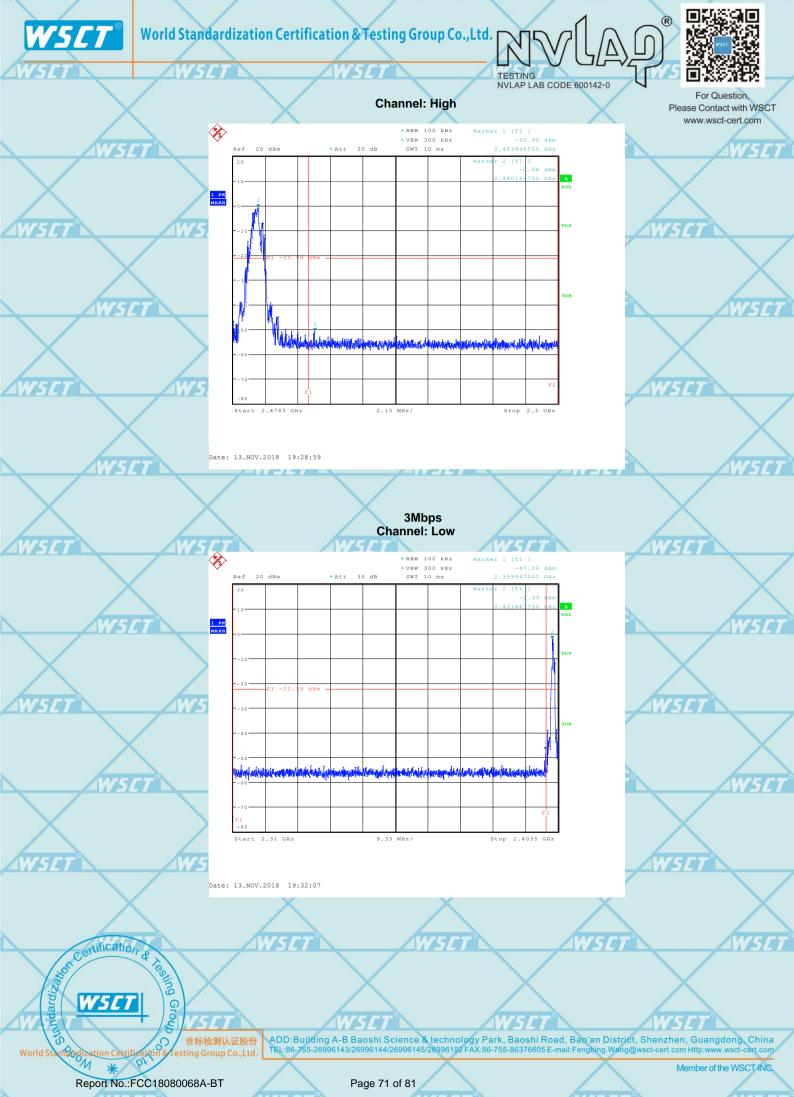
WSET[®] WSET[®]

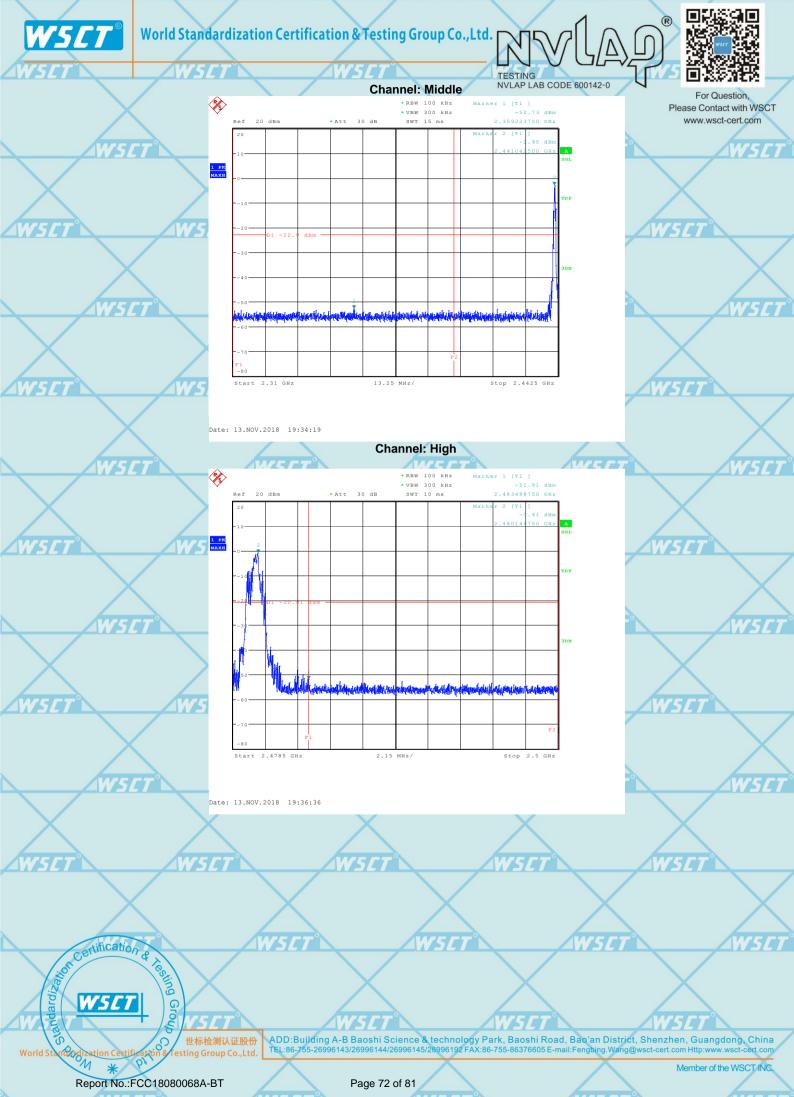
世标检测认证股份 TEL:86-755-26996143/26996144/26996145/26996192 FAX:86-755-86376605 E-mail:Fengbing.Wang@wsct-cert.com Http://www.wsct-cert.com

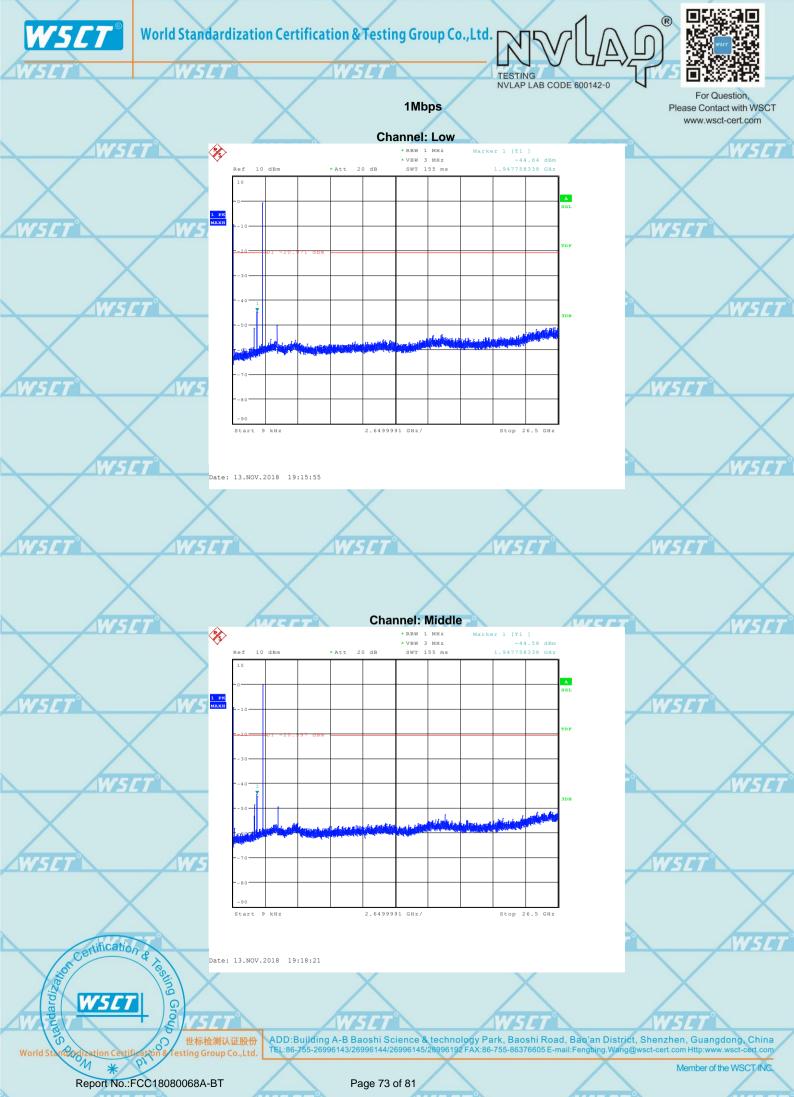
9





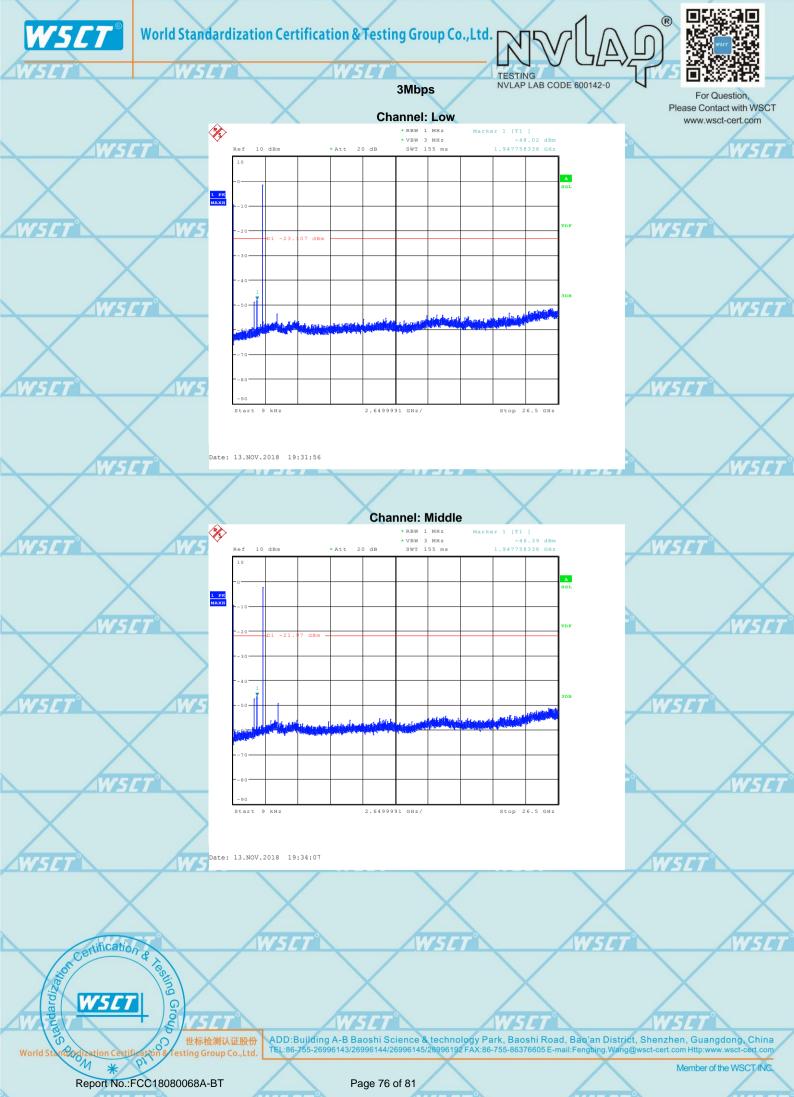




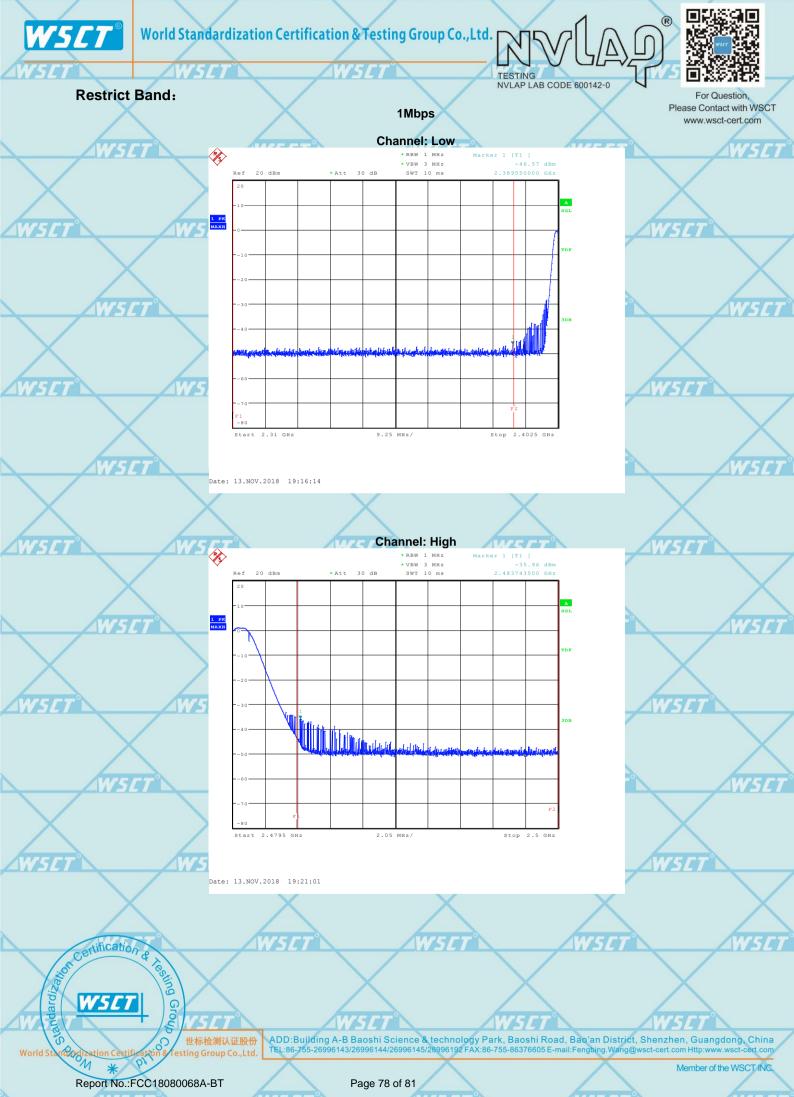


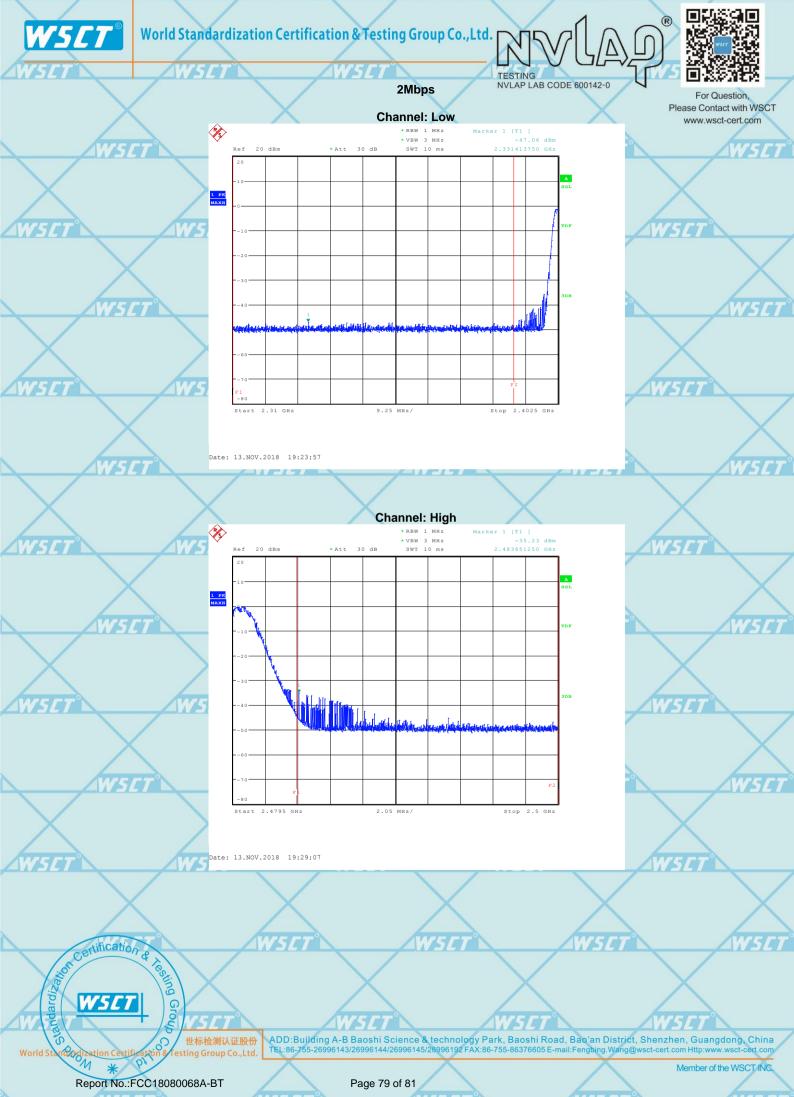


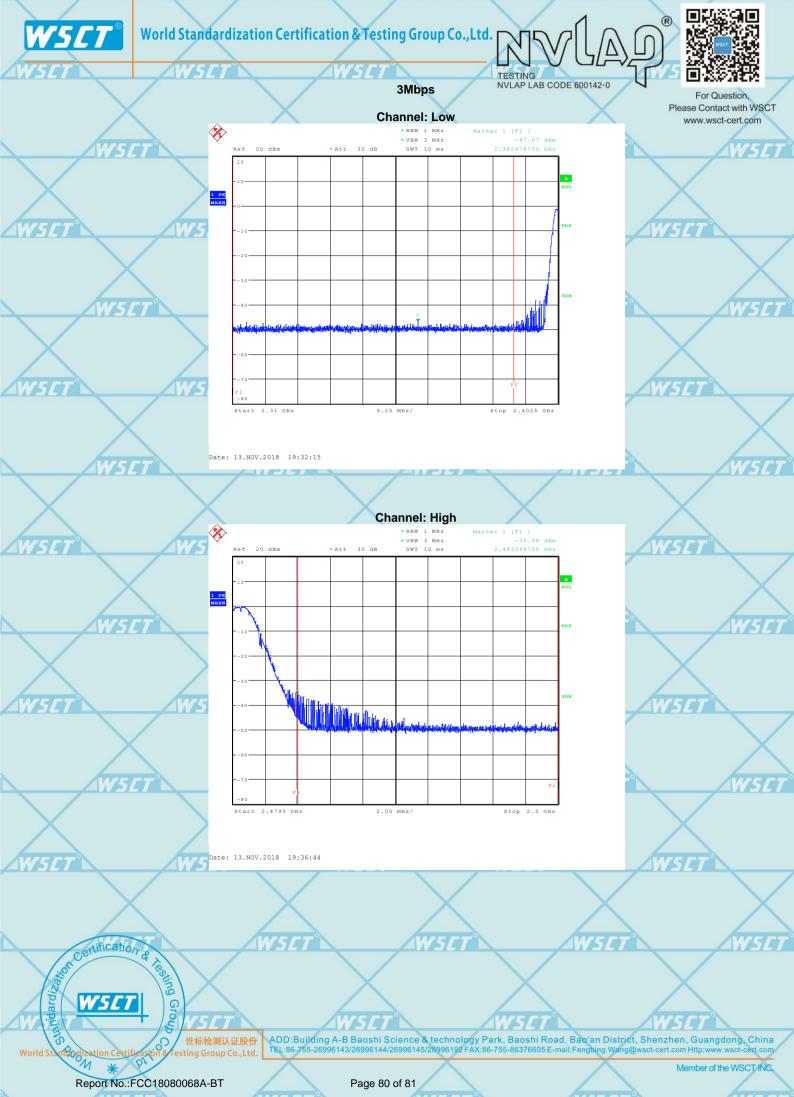
















10. ANTENNA APPLICATION

10.1 ANTENNA REQUIREMENT

The EUT'S antenna is met the requirement of FCC part 15C section 15.203 and 15.247

FCC part 15C section 15.247 requirements: Systems operating in the 2402-2480MHz band that are used exclusively for fixed.

10.1.2 Result

The EUT's antenna integrated on PCB, The antenna's gain is 1.26dBi and meets the requirement.

THE LOT'S drike	erina integrated of 1 CD, The air	terina s gairris 1.200bi a	ind meets the requirem	ient.
WSET	WSET	WSET	WSET	WSET
WSET	WSET WSE	7 WSE		
WSET	W5ET°	WSET	WSET	WSET
WSET	W5ET W5E	$\langle \hspace{0.1cm} \rangle$		CT.
WSET	WSET	WSET	WSET	WSET
WSLT	WSET WSE			CT
WSLT	WSET	WSET	WSET	WSET
WSLT	WSET WSE			ET
otification	WSLT	WSET	WSLT	WSET
Certification & Page	FND	OF REPORT		

---END OF REPORT---