





WSET



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

TEST REPORT

FCC ID: 2AHYJ-TVE1070M

Product: Tablet

Model No.: LincPlus T3

Trade Mark: LincPlus

Report No.: WSCT-A2LA-R&E230300006A-BT

Issued Date: 10 April 2023

Issued for:

Techvision Intelligent Technology Co.,Ltd.

5F, No.2 Building, District D,TCL international E City, Nanshan, ShenZhen,
China

Issued By:

World Standardization Certification & Testing Group(Shenzhen) 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(Shenzhen) Co., Ltd. This report must not be used by the client to claim product certification, approval, or any agency of the U.S. Government.

WSET

MON * . bi

世标检测认证股份

ADD:Building A-B-Baoshi Science & Technology Park, Baoshi Road,Baoan District, Shenzhen, Guangdong, China TEL:0086-755-26996192 25996053 FAX:0086-755-86376605 E-mail:lengbing.wang@wscl-cert.com Hilp:www.wscl-cert.com









Certificate #5768.01

Please Contact with WSCT www.wsct-cert.com

TABLE OF CONTENTS

		1.0
1.	Test Certification	3
2.	Test Result Summary	4
143.	EUT Description	. 5
4.	Genera Information	7
	4.1. TEST ENVIRONMENT AND MODE	7
1	4.2. DESCRIPTION OF SUPPORT UNITS	1175
5.	Facilities and Accreditations	8
1	5.1. FACILITIES	8
101	5.2. ACCREDITATIONS	8
	5.3. MEASUREMENT UNCERTAINTY	
	5.4. MEASUREMENT INSTRUMENTS	1
6.	Test Results and Measurement Data	11/
	6.1. ANTENNA REQUIREMENT	
	6.2. CONDUCTED EMISSION	
791	6.3. CONDUCTED OUTPUT POWER	_
	6.4. 20DB OCCUPY BANDWIDTH	
	6.5. CARRIER FREQUENCIES SEPARATION	
-/	6.7. DWELL TIME	1
/	6.8. PSEUDORANDOM FREQUENCY HOPPING SEQUENCE	
	6.9. CONDUCTED BAND EDGE MEASUREMENT	
744	6.10. CONDUCTED SPURIOUS EMISSION MEASUREMENT	
	6.11. RADIATED SPURIOUS EMISSION MEASUREMENT	69
		- 1





IJac-MR/





Please Contact with WSCT

www.wsct-cert.com

Report No.: WSCT-A2LA-R&E230300006A-BT

Test Certification

Product: Tablet

Model No .: LincPlus T3

Additional

LincPlus Model:

Applicant: Techvision Intelligent Technology Co., Ltd.

Address: 5F, No.2 Building, District D,TCL international E City, Nanshan, ShenZhen,

China

Manufacturer: Techvision Intelligent Technology Co.,Ltd.

Address: 5F, No.2 Building, District D,TCL international E City, Nanshan, ShenZhen,

China

Date of Test: 10 March 2023 ~ 09 April 2023

Applicable Standards:

FCC CFR Title 47 Part 15 Subpart C Section 15.247

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

Tested By:

Xiam

(Wang Xiang)

Var

Checked By:

(Li Huaibi)

Approved By:

(Liu Fuxin)

Date: //

NOW * PT

世标检测认证股份

ADD:Building A-B.Baoshi Science & Technology Park, Baoshi Road,Baoan District, Shenzhen, Guangdong, China TEL:0086-755-26996192 26996053 FAX:0086-755-86376605 E-mail:tengbing.wang@wsct-cert.com Http://www.wsct-cert.com

Page 3 of 75









Certificate #5768.01

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

2. Test Result Summary

		Z
Requirement	CFR 47 Section	Result
Antenna Requirement	§15.203/§15.247 (c)	PASS
AC Power Line Conducted Emission	§15.207	PASS
Conducted Peak Output Power	§15.247 (b)(1) §2.1046	PASS
20dB Occupied Bandwidth	§15.247 (a)(1) §2.1049	PASS
Carrier Frequencies Separation	§15.247 (a)(1)	PASS
Hopping Channel Number	§15.247 (a)(1)	PASS
Dwell Time	§15.247 (a)(1)	PASS
Radiated Emission	§15.205/§15.209 §2.1053, §2.1057	PASS
Band Edge	§15.247(d) §2.1051, §2.1057	PASS
	Antenna Requirement AC Power Line Conducted Emission Conducted Peak Output Power 20dB Occupied Bandwidth Carrier Frequencies Separation Hopping Channel Number Dwell Time Radiated Emission	Antenna Requirement \$15.203/\\$15.247 (c) AC Power Line Conducted Emission \$15.207 Conducted Peak Output \$15.247 (b)(1) \$2.1046 20dB Occupied Bandwidth \$15.247 (a)(1) \$2.1049 Carrier Frequencies Separation \$15.247 (a)(1) Hopping Channel Number \$15.247 (a)(1) Dwell Time \$15.247 (a)(1) Radiated Emission \$15.209 \$2.1053, \\$2.1057 \$15.247(d)

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.



WEIGH

ADD:Building A-B Baoshi Science & Technology Park, Baoshi Road, Bao'an District, Shenzhen, Guangdong, China TEL:86-755-26996192 26992306 FAX-86-756-86376605 E-mail:Fengbing-Wang@wsct-cert.com Http://www.wsct-cert.com









Certificate #5768.01

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

EUT Description 3.

Product Name:	Tablet W5
Model:	LincPlus T3
Trade Mark:	LincPlus
Operation Frequency:	2402MHz~2480MHz
Channel Separation:	1MHz
Number of Channel:	79
Modulation Type:	GFSK, π/4-DQPSK, 8-DPSK
Modulation Technology:	FHSS
Antenna Type:	Integral Antenna
Antenna Gain:	0.86dBi
Rechargeable Li-Polymer Battery:	Li-ion Battery: U3158123PV Rated Voltage: 3.8V Rated Capacity: 7000mAh
Adapter:	Adapter: MX21PD-U Input: 100-240V~50/60Hz 0.5A Output: 5V3A/9V2.22A/12V1.67A
Remark:	N/A.



WSET

S DUOM * DIT









Report No.: WSCT-A2LA-R&E230300006A-BT

Certificate #5768.01

Please Contact with WSCT www.wsct-cert.com

Operation Frequency each of channel for GFSK, π/4-DQPSK, 8DPSK	Operation Frequency each	h of chann	el for GFSK, π/4	I-DQPSK, 8DPSK
--	--------------------------	------------	------------------	----------------

								WWW
	Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
7	210741	2402MHz	20	2422MHz	40	2442MHz	60	2462MHz
	1	2403MHz	21	2423MHz	41	2443MHz	61	2463MHz
		\wedge		\wedge		\wedge		
è	10	2412MHz	30	2432MHz	50	2452MHz	70	2472MHz
	11	2413MHz	31	2433MHz	51	2453MHz	71	2473MHz
	X		X		X		\times	•••
	18	2420MHz	38	2440MHz	58	2460MHz	78	2480MHz
,	19	2421MHz	39	2441MHz	59	2461MHz	1779	
F								

Remark: Channel 0, 39 &78 have been tested for GFSK, $\pi/4$ -DQPSK, 8DPSK modulation mode.

WEIGH	NIE I	N1494	NIE I	WHI	1
777.5	$\langle \ \rangle$			$\langle \ \rangle$	
WETGE	Wester	WHITE	WATER	WEST OF THE PARTY	
NVET			$\langle \ \rangle$	$\langle \ \rangle$	-
W-141	177-7-19	Wester	W-STO	1/619	
NVA!					
WHITE	TVA-TO IN	WEIGHT.	NV-141	YES 9	
estilization & Te	No G				Al-Billion

世标检测认证股份 no aroup (Shenzhen) Co. Ltd.

S DUOM * DIT

ADD:Building A-B Baoshi Science & Technology Park, Baoshi Road, Bao'an District, Shenzhen, Guangdong, China TEL:86/755-26998192 26992306 FAX 86-756-86376605 E-mail: Fengbing Wang@wscl-cert.com Http://www.wscl-cert.com









Certificate #5768.01

Please Contact with WSC1 www.wsct-cert.com

4. Genera Information

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
freeze freeze	by select channel and modulations with Fully-charged battery

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

4.2. 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	Adapter	1	1	ADAPTER

Note:

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



ADD:Building A-B Baoshi Science & Technology Park, Baoshi Road, Bao an District, Shenzhen, Guangdong, China TEL:86-755-26998192 26992308 FAX 86-755-86376605 E-mail: Fengbing, Wang@wsct-cert.com Http://www.wsct-cert.com/









Certificate #5768.01

Please Contact with WSCT www.wsct-cert.com

5. Facilities and Accreditations

5.1. Facilities

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(Shenzhen) 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."

5.2. ACCREDITATIONS

CNAS - Registration Number: L3732

China National Accreditation Service for Conformity Assessment, The test firm Registration Number: L3732

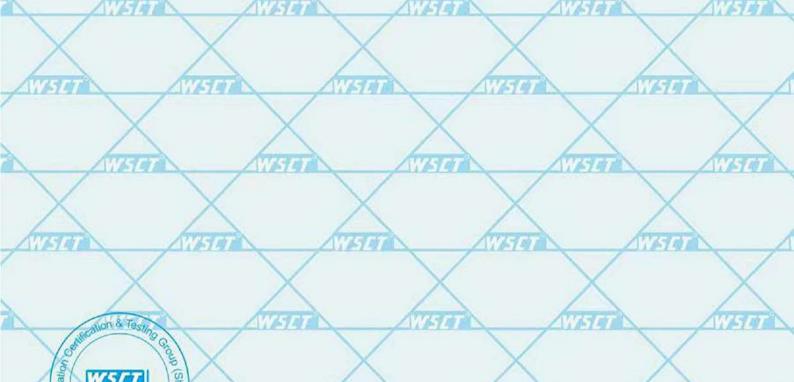
FCC - Designation Number: CN1303

World Standardization Certification & Testing Group(Shenzhen) CO., LTD. has been accredited as a testing laboratory by FCC(Federal Communications Commission). The test firm Designation Number: CN1303.

A2LA - Certificate Number: 5768.01

10M * P

The EMC Laboratory has been accredited by the American Association for Laboratory Accreditation (A2LA). Certification Number: 5768.01



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

TEL:86-755-26996192 26992306 FAX 86-758-86376605 E-mail: Fengbing Wang@wsct-cert.co









5.3. Measurement Uncertainty

Certificate #5768.01

Please Contact with WSCT www.wsct-cert.com

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

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

	17294	57770	NIST 4	1779	WHITE
WHITE	NV-514	$\langle \ \rangle$			744
	NI FIRM	NVESTEE	Wister	NV-14	WEIGH
WEIGH	\times				14
	Wester	WETER	WATER	VI-THE I	WSIGT
WETER	WEST				570
	X	WST	WESTER	Wister	WSW
Sold I	ation & Testing City				X

Page 9 of 75

ADD:Building A-B Baoshi Science & Technology Park, Baoshi Road, Bao'an District, Shenzhen, Guangdong, China TEL:86-755-26996192 26992306 FAX 86-756-86376605 E-mail:Fengbing.Wang@wsct-cert.com Http://www.wsct-cert.com

Member of the WSCT INC









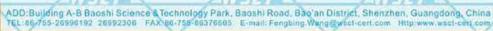
Certificate #5768.01

Please Contact with WSCT www.wsct-cert.com

5.4. MEASUREMENT INSTRUMENTS

	NAME OF EQUIPMENT	MANUFACTURER	MODEL	SERIAL NUMBER	Calibration Date	Calibrati on Due.
1	Test software		EZ-EMC	CON-03A	-	X-
\	Test software		MTS8310		- 4	
19	EMI Test Receiver	R&S	ESCI	100005	11/05/2022	11/04/2023
	LISN	AFJ	LS16	16010222119	11/05/2022	11/04/2023
	LISN(EUT)	Mestec	AN3016	04/10040	11/05/2022	11/04/2023
/	Universal Radio Communication Tester	R&S	CMU 200	1100.0008.02	11/05/2022	11/04/2023
1	Coaxial cable	Megalon	LMR400	N/A	11/05/2022	11/04/2023
7	GPIB cable	Megalon	GPIB	N/A	11/05/2022	11/04/2023
	Spectrum Analyzer	R&S	FSU	100114	11/05/2022	11/04/2023
	Pre Amplifier	H.P.	HP8447E	2945A02715	11/05/2022	11/04/2023
	Pre-Amplifier	CDSI	PAP-1G18-38	7	11/05/2022	11/04/2023
/	Bi-log Antenna	SUNOL Sciences	JB3	A021907	11/05/2022	11/04/2023
1	9*6*6 Anechoic		\		11/05/2022	11/04/2023
49	Horn Antenna	COMPLIANCE ENGINEERING	CE18000	11414	11/05/2022	11/04/2023
	Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-631	11/05/2022	11/04/2023
	Cable	TIME MICROWAVE	LMR-400	N-TYPE04	11/05/2022	11/04/2023
	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
7	RF cable	Murata	MXHQ87WA3000	1000	11/05/2022	11/04/2023
	Loop Antenna	EMCO	6502	00042960	11/05/2022	11/04/2023
	Horn Antenna	SCHWARZBECK	BBHA 9170	1123	11/05/2022	11/04/2023
	Power meter	Anritsu	ML2487A	6K00003613	11/05/2022	11/04/2023
	Power sensor	Anritsu	MX248XD	X	11/05/2022	11/04/2023
Z.	Spectrum Analyzer	Keysight	N9010B	MY60241089	11/05/2022	11/04/2023













Certificate #5768.01

Please Contact with WSCT www.wsct-cert.com

6. Test Results and Measurement Data

6.1. Antenna requirement

Standard requirement:

FCC Part15 C Section 15.203 /247(c)

15.203 requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a 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 Integral Antenna. it meets the standards, and the best case gain of the antenna is 0.86dBi.



Antenna











Certificate #5768.01

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

6.2. **Conducted Emission**

6.2.1. Test Specification				
Test Requirement:	FCC Part15 C Section 1	15.207	X	
Test Method:	ANSI C63.10:2014	WHIT	17574	
Frequency Range:	150 kHz to 30 MHz			
Receiver setup:	RBW=9 kHz, VBW=30 k	kHz, Sweep time	=auto	
Limits:	Frequency range (MHz) 0.15-0.5 0.5-5 5-30	Limit (c Quasi-peak 66 to 56* 56 60	AVerage 56 to 46* 46 50	
X	Reference Plane			
AVET OF THE PARTY	40cm E.U.T AC power	80cm LISN Filter	— AC power	
Test Setup:	Test table/Insulation plane Remark E.U.T: Equipment Under Test LISN: Line Impedence Stabilization Netw Test table height=0.8m	EMI Receiver		
Test Mode:	Refer to item 4.1	X	X	
N/5141	The E.U.T is connect impedance stabilization provides a 500hm/50 measuring equipment.	ition network OuH coupling imp t.	(L.I.S.N.). This pedance for the	
Test Procedure:	 The peripheral device power through a LIS coupling impedance refer to the block of photographs). 	SN that provides with 50ohm term diagram of the	a 50ohm/50uH nination. (Please test setup and	
ation & Tests	3. Both sides of A.C. conducted interference emission, the relative the interface cables in ANSI C63.10:2014 or	ce. In order to fir positions of equi nust be changed	nd the maximum ipment and all of according to	
Test Result:	PASS	X	X	

S Nond * DI







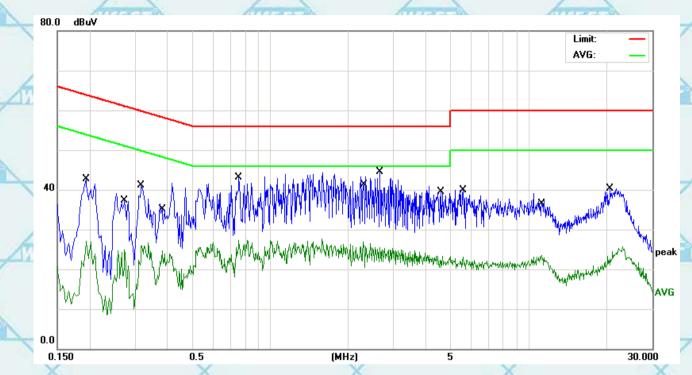
Certificate #5768.01

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

6.2.2. Test data

Please refer to following diagram for individual

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



	No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
			MHz	dBu∨	dB	dBu∀	dBu∀	dB	Detector	
į	1		0.1940	32.24	10.41	42.65	63.86	-21.21	QP	
1	2		0.2740	14.49	10.42	24.91	50.99	-26.08	AVG	
r	3		0.3180	30.76	10.43	41.19	59.76	-18.57	QP	
	4		0.3820	14.26	10.45	24.71	48.23	-23.52	AVG	
	5		0.7580	32.65	10.49	43.14	56.00	-12.86	QP	
	6		0.7580	16.90	10.49	27.39	46.00	-18.61	AVG	
	7		2.2900	16.17	10.66	26.83	46.00	-19.17	AVG	1
	8	*	2.6540	33.83	10.67	44.50	56.00	-11.50	QP	
Į	9		4.6380	12.60	10.69	23.29	46.00	-22.71	AVG	
3	10		5.5700	29.28	10.70	39.98	60.00	-20.02	QP	
7	11		11.2180	12.73	10.86	23.59	50.00	-26.41	AVG	Τ,
	12		20.6980	29.24	11.04	40.28	60.00	-19.72	QP	7



ADD:Building A-B Baoshi Science & Technology Park, Baoshi Road, Bao'an District, Shenzhen, Guangdong, China TEL:86-755-26996192 26992306 FAX-86-756-86376605 E-mail:Fengbing-Wang@wsct-cert.com Http://www.wsct-cert.com

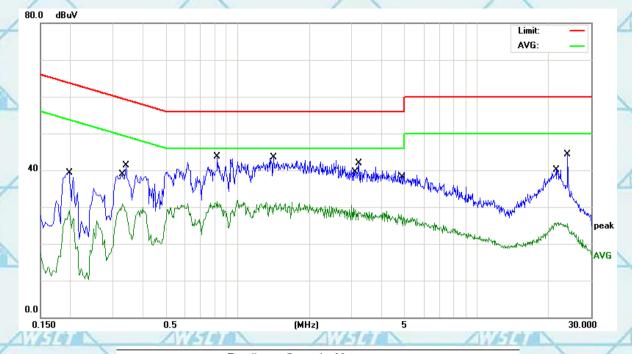






For Question www.wsct-cert.com

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



1	No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
2			MHz	dBu∨	dB	dBu∨	dBu∨	dB	Detector
7	1		0.1980	28.82	10.41	39.23	63.69	-24.46	QP
LA	2		0.1980	18.75	10.41	29.16	53.69	-24.53	AVG
	3		0.3321	20.15	10.44	30.59	49.40	-18.81	AVG
ľ	4		0.3420	30.77	10.44	41.21	59.15	-17.94	QP
	5	*	0.8220	33.22	10.50	43.72	56.00	-12.28	QP
<	6		0.8220	20.92	10.50	31.42	46.00	-14.58	AVG
	7		1.4180	32.92	10.57	43.49	56.00	-12.51	QP
1	8		3.1020	18.56	10.67	29.23	46.00	-16.77	AVG
1	9		3.2139	31.13	10.67	41.80	56.00	-14.20	QP
	10		4.8300	17.15	10.69	27.84	46.00	-18.16	AVG
	11		21.2500	14.76	11.03	25.79	50.00	-24.21	AVG
	12		23.9980	33.32	10.99	44.31	60.00	-15.69	QP

Note:

Freq. = Emission frequency in MHz

Reading level $(dB\mu V)$ = Receiver reading

Corr. Factor (dB) = Antenna factor + Cable loss

Measurement $(dB\mu V)$ = Reading level $(dB\mu V)$ + Corr. Factor (dB)

Limit (dBµV) = Limit stated in standard

 $Margin (dB) = Measurement (dB\mu V) - Limits (dB\mu V)$

Q.P. =Quasi-Peak AVG =average

 * is meaning the worst frequency has been tested in the frequency range 150 kHz to 30MHz.

ADD:Building A-B Baoshi Science & Technology Park, Baoshi Road, Bao'an District, Shenzhen, Guangdong, China TEL:86-755-26996192 26992306 FAX:86-756-86376605 E-mail: Fengbing. Wang@wsct-cert.com Http://www.wsct-cert.com









Certificate #5768.01

Please Contact with WSCT www.wsct-cert.com

6.3. Conducted Output Power

6.3.1. Test Specification

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









Certificate #5768.01

Please Contact with WSCT www.wsct-cert.com

6.3.2. Test Data

	GFSK mode					
Tes	t channel	Peak Output Power (dBm)	Limit (dBm)	Result		
L	owest	-1.33	20.97	PASS		
ı	Middle	-1.04	20.97	PASS		
H	lighest	-5.35	20.97	PASS		

Allenda Allenda Allenda Allenda				
Pi/4DQPSK mode				
Test channel	Peak Output Power (dBm) Limit (dBm)		Result	
Lowest	-2.22	20.97	PASS	
Middle	-2.23	20.97	PASS	
Highest	-6.57	20.97	PASS	

8DPSK mode					
	Test channel	Peak Output Power (dBm)			
	Lowest	-3.15	20.97	PASS	
	Middle	-2.61	20.97	PASS	
	Highest	-6.79	20.97	PASS	

Test plots as follows:



ADD:Building A-B Baoshi Science & Technology Park, Baoshi Road, Bao'an District, Shenzhen, Guangdong, China TEL:86/755-2698192 26992308 FAX 86-755-86376605 E-mail: Fengbing Wang@wscl-cert.com Http://www.wscl-cert.com



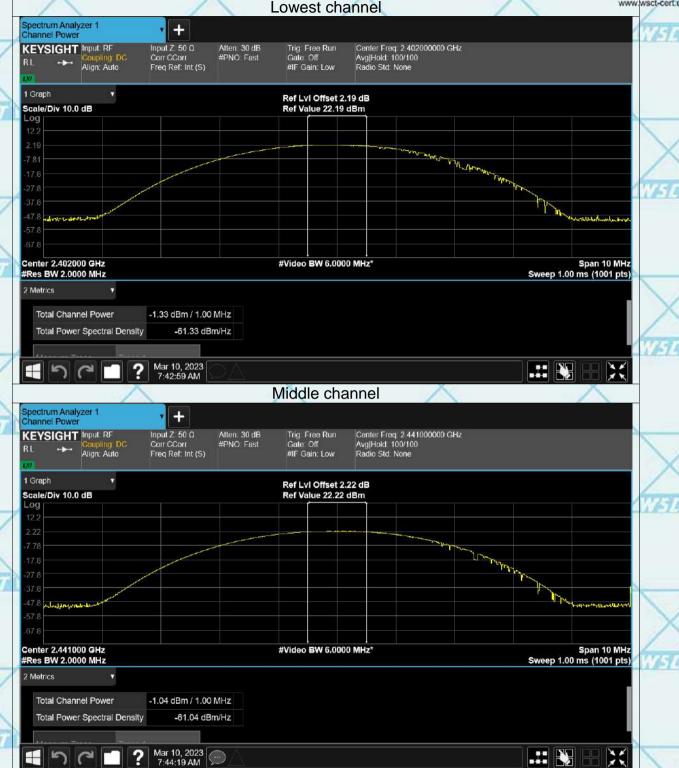




Report No.: WSCT-A2LA-R&E230300006A-BT

GFSK Modulation

Certificate #5768.01 For Question,
Please Contact with WSCT
www.lwsct-cert.com





ADD:Building A-B Baoshi Science & Technology Park, Baoshi Road, Bao'an District, Shenzhen, Guangdong, China TEL:86/755-26996192 26992306 FAX:86-756-86376605 E-mail: Fengbing Wang@wscl-cert.com Http://www.wscl-cert.com



Selfication & Testing

S DUOM * DIT

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



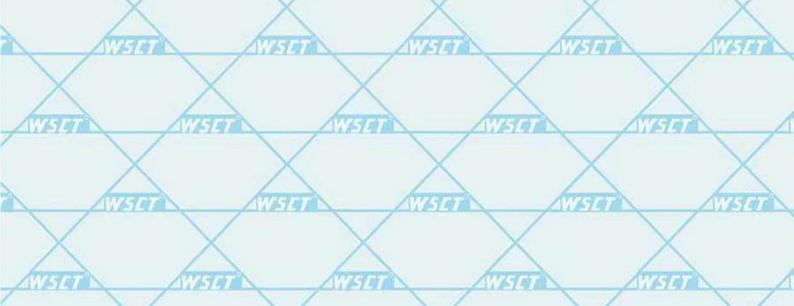


Report No.: WSCT-A2LA-R&E230300006A-BT

Certificate #5768.01

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













Report No.: WSCT-A2LA-R&E230300006A-BT











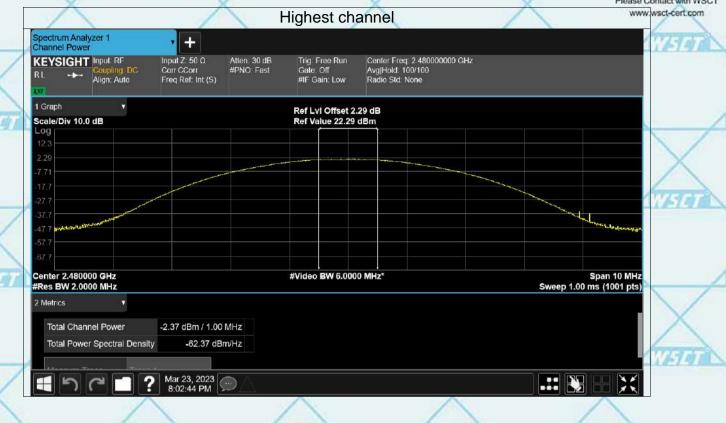
Report No.: WSCT-A2LA-R&E230300006A-BT

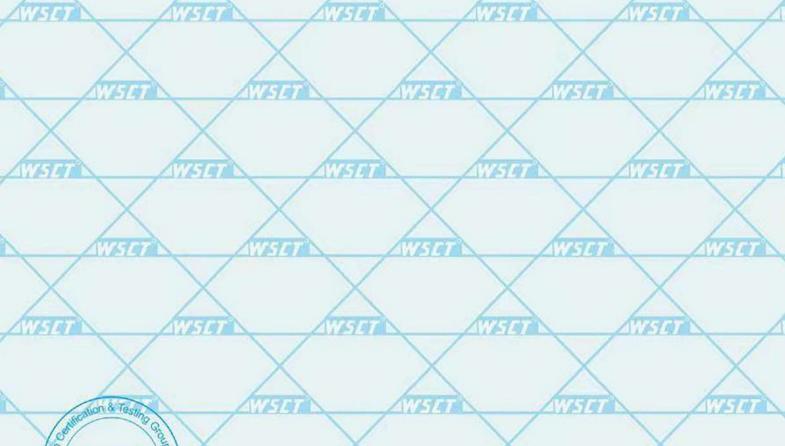
(Shenz)

S DUOM * DIT

世标检测认证股份

Certificate #5768.01 For Question,
Please Contact with WSCT





Page 20 of 75

ADD:Building A-B Baoshi Science & Technology Park, Baoshi Road, Bao'an District, Shenzhen, Guangdong, China TEL:86-755-26996192 26992306 FAX:86-755-86376605 E-mail: Fengbing. Wang@wsct-cert.com Http://www.wsct-cert.com

Member of the WSCT INC



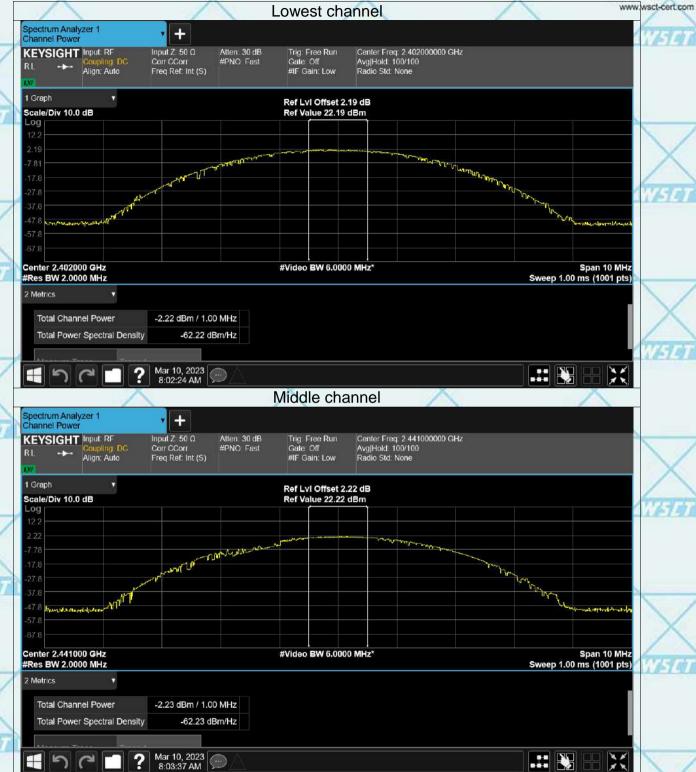




Report No.: WSCT-A2LA-R&E230300006A-BT **8DPSK Modulation**

ACCREDITED

Certificate #5768.01 For Question, Please Contact with WSCT





ADD:Building A-B Baoshi Science & Technology Park, Baoshi Road, Bao'an District, Shenzhen, Guangdong, China TEL:86-755-26996192 26992306 FAX:86-755-86376605 E-mail: Fengbing. Wang@wsct-cert.com Http://www.wsct-cert.com



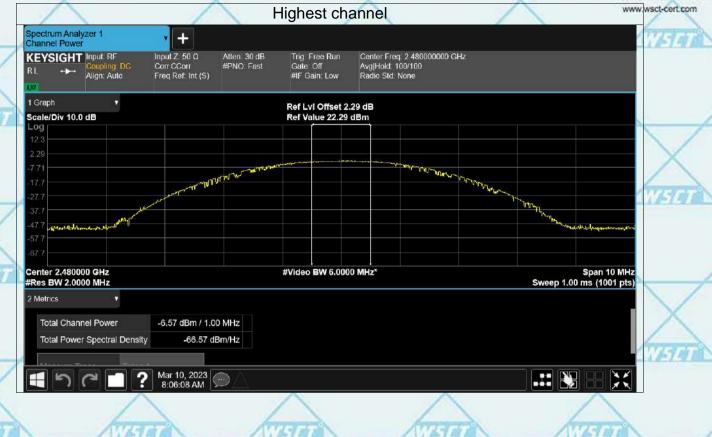


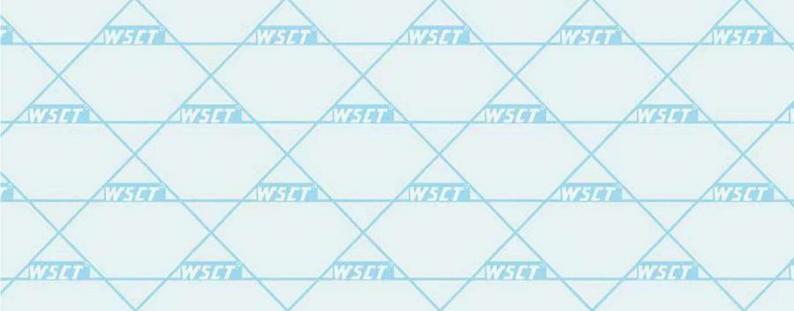




Report No.: WSCT-A2LA-R&E230300006A-BT

Certificate #5768.01 For Question,
Please Contact with WSCT







ADD:Building A-B Baoshi Science & Technology Park, Baoshi Road, Bao'an District, Shenzhen, Guangdong, China TEL:86/755-26996192 26992306 FAX:86-755-86376605 E-mail: Fengbing.Wang@wsct-cert.com Http://www.wsct-cert.com









Certificate #5768.01

Please Contact with WSCT www.wsct-cert.com

6.4. 20dB Occupy Bandwidth

6.4.1. Test Specification

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











Report No.: WSCT-A2LA-R&E230300006A-BT

I-AZLA-R&EZ30300006A-BT

6.4.2. Test data

Certificate #5768.01 For Question,

Please Contact with WSCT
www.wsct-cert.com

4	Test channel	20dB Occupy Bandwidth (MHz)					
	rest channel	GFSK	π/4-DQPSK	8DPSK	Conclusion		
	Lowest	0.794	1.11	1.05	PASS		
	Middle	0.693	1.106	1.046	PASS		
1	Highest	0.679	1.068	1.033	PASS		

	Highest	0.679	1.068	1.033	PASS	
Test p	lots as follows:	11/19	WE TO		7-14	W-101
NI BIRTON	NV5141	NIET.		7619	177.57	
	79	11519	7751		75191	WETO
WEI 4	WHE	NAT.		7514	NIE!	70
	(4)	Visite	1619		751916	75160
V 4514 A	VISTAL	NV69		(610)	7/67	
	190	WEST OF THE PARTY	WEIGH		1574	N/SIGI
WETTE	WESTER	NY ET		WEIDE	NIE!	
	\langle	AVETO B	NATE OF		7514	WHITE
Salleation &	Group (S)			X		

型 世标检算认证股份 Dno sroup (Shenzhen) Co. Ltd.

DUOM * DIT

ADD:Building A-B Baoshi Science & Technology Park, Baoshi Road, Bao'an District, Shenzhen, Guangdong, China TEL:86/155-26998192 26992308 FAX:86-756-86376605 E-mail: Fengbing Wang@wsct-cert.com Http://www.wsct-cert.com















Report No.: WSCT-A2LA-R&E230300006A-BT

Certificate #5768.01 For Question,
Please Contact with WSCT



TVETO TO THE TOTAL TOTAL

100 WATER WATER

WSTETT COOL (Shepara Cool of the Mark Co

SOUND * DIT

ADD:Building A-B Baoshi Science & Technology Park, Baoshi Road, Bao'an District, Shenzhen, Guangdong, China TEL:86/755-26998192 26992306 FAX 86-756-86376605 E-mail: Fengbing Wang@wscl-cert.com Http://www.wscl-cert.com







Report No.: WSCT-A2LA-R&E230300006A-BT





Mar 10, 2023 8:03:45 AM







Report No.: WSCT-A2LA-R&E230300006A-BT

Certificate #5768.01 For Question

Please Contact with WSCT

www.lwsct-cert.com



WETON WETON

WETER STETEN

Star Na Star

ADD:Building A-B Baoshi Science & Technology Park, Baoshi Road, Bao an District, Shenzhen, Guangdong, China TEL:86-755-26996192 26992306 FAX-86-755-86376605 E-mail: Fengbing Wang@wsci-cert.com Http://www.wsci-cert.com







Report No.: WSCT-A2LA-R&E230300006A-BT





Transmit Freq Error

Mar 10, 2023 8:32:30 AM

x dB Bandwidth

-2.726 kHz 1.046 MHz

ADD:Building A-B Baoshi Science & Technology Park, Baoshi Road, Bao'an District, Shenzhen, Guangdong, China TEL:86-755-26996192 26992306 FAX 86-756-86376605 E-mail:Fengbing.Wang@wsct-cert.com Http://www.wsct-cert.com

% of OBW Power

99.00 %

-20.00 dB







Report No.: WSCT-A2LA-R&E230300006A-BT

Certificate #5768.01

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



WETON WETON

WSET WSTAT

DUOM * PIT

世版检测认证数的 ADD:Building A-B Baoshi Science & Technology Park, Baoshi Road, Bao'an District, Shenzhen, Guangdong, China at China









Certificate #5768.01

Please Contact with WSCT www.wsct-cert.com

6.5. Carrier Frequencies Separation

6.5.1. Test Specification

Test Requirement:	FCC Part15 C Section 15.247 (a)(1)
Test Method:	ANSI C63.10:2014
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.
Test Setup:	Spectrum Analyzer EUT WS///
Test Mode:	Hopping mode
Test Procedure:	 The testing follows ANSI C63.10:2014 Measurement Guidelines. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement. Set to the maximum power setting and enable the EUT transmit continuously. Enable the EUT hopping function. Use the following spectrum analyzer settings: Span = wide enough to capture the peaks of two adjacent channels; RBW is set to approximately 30% of the channel spacing, adjust as necessary to best identify the center of each individual channel; VBW≥RBW; Sweep = auto; Detector function = peak; Trace = max hold. Use the marker-delta function to determine the separation between the peaks of the adjacent channels. Record the value in report.
Test Result:	PASS









Certificate #5768.01

Please Contact with WSCT www.wsct-cert.com

6.5.2. Test data

	and A. H. A. H. Marketter				
GFSK mode					
Test channel		Carrier Frequencies Separation (MHz)	Limit (MHz)	Result	
	Lowest	0.998	2/3*20dB BW	PASS	
	Middle	1.002	2/3*20dB BW	PASS	
	Highest	0.998	2/3*20dB BW	PASS	

Pi/4 DQPSK mode					
0	Test channel	Carrier Frequencies Separation (MHz)	Limit (MHz)	Result	
	Lowest	1	2/3*20dB BW	PASS	
	Middle	1	2/3*20dB BW	PASS	
	Highest	AVETO 1	2/3*20dB BW	PASS	

8DPSK mode					
esult					
ASS					
ASS					
ASS					

dd Stan and plan commence of the party of th

ADD:Building A-B Booshi Science & Technology Park, Baoshi Road, Bao an District, Shenzhen, Guangdong, China TEL:86-755-26996192 26992306 FAX-86-755-86376605 E-mail: Fengbing, Wang@wsci-cert.com Http://www.wsci-cert.com



















Report No.: WSCT-A2LA-R&E230300006A-BT

Certificate #5768.01

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





(Shenz) 世标检测认证股份

SOUND # PIT

ADD:Building A-B Baoshi Science & Technology Park, Baoshi Road, Bao'an District, Shenzhen, Guangdong, China TEL:86-755-26996192 26992306 FAX 86-756-86376605 E-mail:Fengbing.Wang@wsct-cert.com Http://www.wsct-cert.com







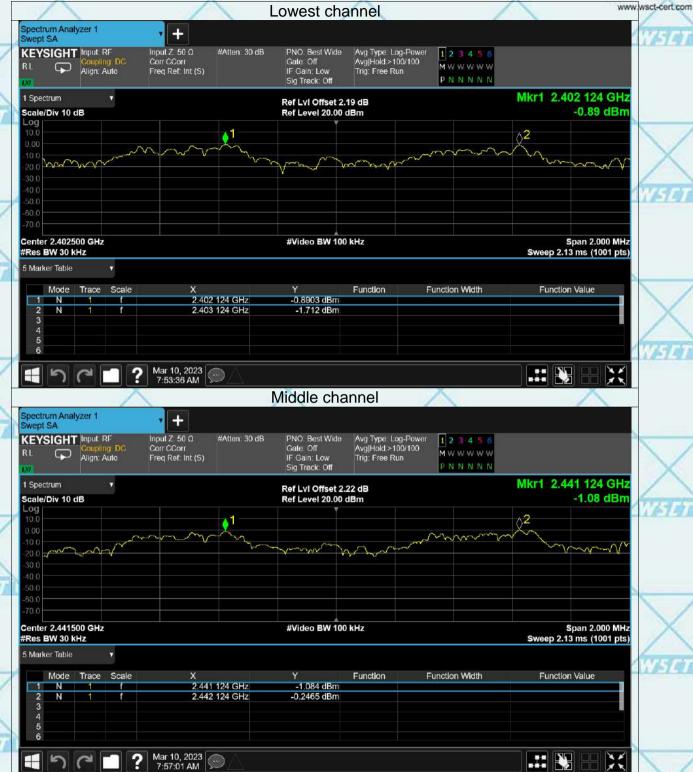


Report No.: WSCT-A2LA-R&E230300006A-BT



Certificate #5768.01

For Question,
Please Contact with WSCT





ADD:Building A-B Baoshi Science & Technology Park, Baoshi Road, Bao'an District, Shenzhen, Guangdong, China TEL:86/755-26996192 26992306 FAX:86-756-86376605 E-mail: Fengbing Wang@wscl-cert.com Http://www.wscl-cert.com









Report No.: WSCT-A2LA-R&E230300006A-BT

Certificate #5768.01 For Ouestion.

Please Contact with WSCT www.wsct-cert.com Highest channel Spectrum Analyzer 1 Swept SA + Input Z: 50 Ω Corr CCorr Freq Ref: Int (S) #Atten: 30 dB PNO: Best Wide Gate: Off Avg Type: Log-Power Avg[Hold:>100/100 KEYSIGHT Input RF 1 2 3 4 5 6 MWWWWW Align: Auto IF Gain: Low Sig Track: Off Trig: Free Run PNNNNN 1 Spectrum Mkr1 2.479 124 GHz Ref LvI Offset 2.29 dB Ref Level 20.00 dBm -6.12 dBm Scale/Div 10 dB ٥2 Span 2.000 MHz Sweep 2.13 ms (1001 pts) Center 2.479500 GHz #Res BW 30 kHz #Video BW 100 kHz 5 Marker Table Function Value Function Function Width Mode 2.479 124 GHz 2.480 124 GHz -6.116 dBm -5.291 dBm Mar 10, 2023 8:00:24 AM

WETGE WETGE WETGE

WETER WETER WETER



ADD:Building A-B Baoshi Science & Technology Park, Baoshi Road, Bao'an District, Shenzhen, Guangdong, China TEL:86/755-26996192 26992306 FAX'86-756-86376605 E-mail: Fengbing. Wang@wsct-cert.com Http://www.wsct-cert.com



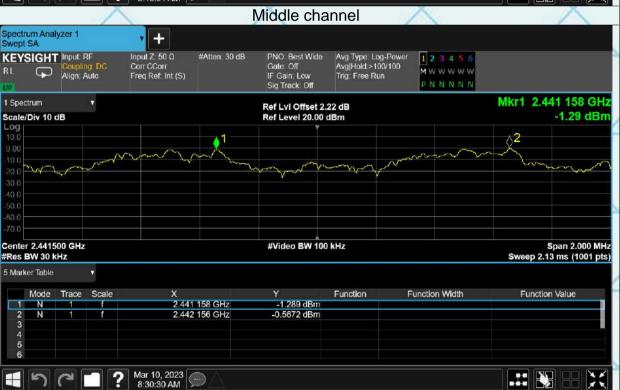




Report No.: WSCT-A2LA-R&E230300006A-BT



Certificate #5768.01 For Question, **8DPSK Modulation** Please Contact with WSCT www.wsct-cert.com Lowest channel Spectrum Analyzer 1 Swept SA + Input Z: 50 Ω Corr CCorr PNO: Best Wide Gate: Off Avg Type: Log-Power Avg|Hold:>100/100 KEYSIGHT Input RF #Atten: 30 dB 1 2 3 4 5 6 MWWWWW Align: Auto Freq Ref: Int (S) IF Gain: Low Sig Track: Off Trig: Free Run PNNNNN 1 Spectrum Mkr1 2,402 000 GHz Ref LvI Offset 2.19 dB Ref Level 20.00 dBm Scale/Div 10 dB -1.19 dBm Center 2.402500 GHz #Res BW 30 kHz Span 2.000 MHz Sweep 2.13 ms (1001 pts) #Video BW 100 kHz 5 Marker Table Function Value Function Function Width Mode -1.187 dBm -2.029 dBm 2.402 000 GHz 2.403 000 GHz Mar 10, 2023 8:15:04 AM











Report No.: WSCT-A2LA-R&E230300006A-BT

Certificate #5768.01 For Question Please Contact with WSCT www.wsct-cert.com





ADD:Building A-B Baoshi Science & Technology Park, Baoshi Road, Bao'an District, Shenzhen, Guangdong, China TEL:86-755-26996192 26992306 FAX:86-755-86376605 E-mail: Fengbing. Wang@wsct-cert.com Http://www.wsct-cert.com









Report No.: WSCT-A2LA-R&E230300006A-BT

Certificate #5768.01

Please Contact with WSCT www.wsct-cert.com

6.6. Hopping Channel Number

6.6.1. Test Specification

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











Report No.: WSCT-A2LA-R&E230300006A-BT

Certificate #5768.01

Please Contact with WSCT www.wsct-cert.com

6.6.2. Test data

SOUN # PIT

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

X	GFSK, P/4-DQPSK, 8DPSK	79	15	PASS	
1779	Test plots as follows:	17574	WEIT	AVE TO B	
	X	X			X
	AVETER AVETER	1777	1727	4	17510
X	X	X	X	X	
AVEIG	W5147	WESTER	115141	WHA	
	XX	\geq	$\langle \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$		X
	AVISTO	77757	T AVIS	40	AV1-7-11
AVEIG	Wester	WHE	NISTA -	N/STREE	
711-1918	X	X		- SIEITE	X
	VISTA VISTA	1727	NI ATES	A CONTRACTOR OF THE PARTY OF TH	(V234)
X	X	X	X	$\overline{}$	
11/-14	Wister a	WSDI	W-5141	116190	/
A	VISTA VISTA	West	NV S		Wister of the Control
X	10191				
NETA	WATER	WEIGH	11274	N. 1-10 B	
	X	X			X
	ation & Text	NIET.	AVE	THE STATE OF THE S	V/514
ation California	WSIII (God was been a second of the second	X	X	X	
TI DE	型 世級校署以证股份 ADD:Build	fing A-B Baoshi Science & Techn	nology Park, Baoshi Road, Bao'an i	District Shenzhen Guan	odono China
World Star No Stor	Certification (190) Group (Sherizhen) Co. Ltd.	5-26996192 26992306 FAX 66-7	iology Park, Baoshi Road, Bao'an 55-86376605 E-mail: Fengbing Wang	@wsct-cert.com Http://www	wsci-ceri.com

Page 40 of 75

Member of the WSCT INC.



60.0

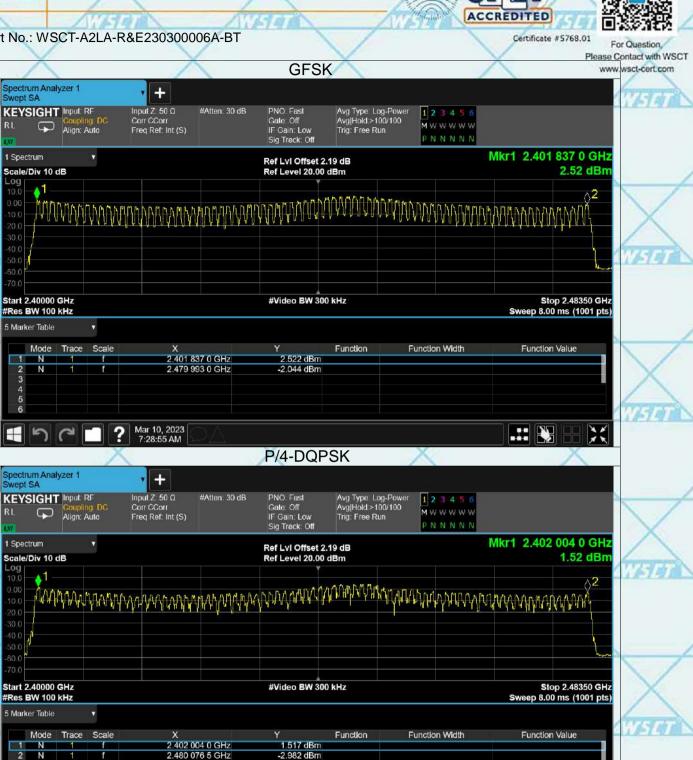
5

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





Report No.: WSCT-A2LA-R&E230300006A-BT





Mar 10, 2023 7:50:13 AM



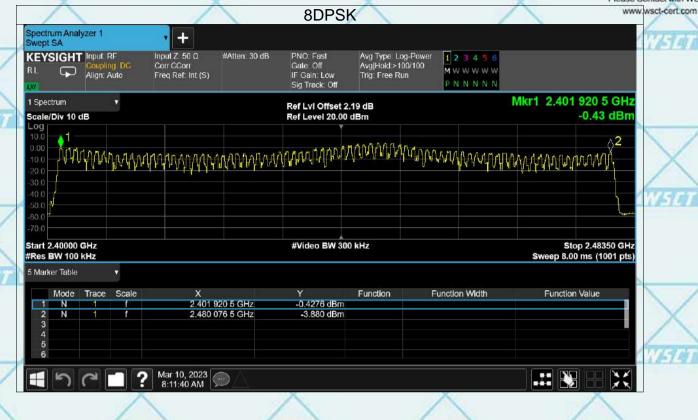






Report No.: WSCT-A2LA-R&E230300006A-BT

Certificate #5768.01 For Question,
Please Contact with WSCT



WETON WETON WETON WETON WETON

WSTOTA WSTOTA

W5/57 Shenzipe

SOUND * PIT

ADD:Building A-B Baoshi Science & Technology Park, Baoshi Road, Bao'an District, Shenzhen, Guangdong, China TEL:86/755-26998192 26992306 FAX 86-756-86376605 E-mail: Fengbing Wang@wscl-cert.com Http://www.wscl-cert.com









Report No.: WSCT-A2LA-R&E230300006A-BT

Certificate #5768.01

Please Contact with WSCT www.wsct-cert.com

6.7. Dwell Time

6.7.1. Test Specification

Test Requirement:	FCC Part15 C Section 15.247 (a)(1)
Test Method:	ANSI C63.10:2014
Limit:	The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.
Test Setup:	Spectrum Analyzer EUT
Test Mode:	Hopping mode W5577
Test Procedure:	 The testing follows ANSI C63.10:2014 Measurement Guidelines. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement. Set to the maximum power setting and enable the EUT transmit continuously. Enable the EUT hopping function. Use the following spectrum analyzer settings: Span = zero span, centered on a hopping channel; RBW shall be ≤ channel spacing and where possible RBW should be set >> 1 / T, where T is the expected dwell time per channel; VBW≥RBW; Sweep = as necessary to capture the entire dwell time per hopping channel; Detector function = peak; Trace = max hold. Measure and record the results in the test report.
Test Result:	PASS
AUGUSTES AUGUS	THE MINE AND ADDRESS OF THE PARTY OF THE PAR











Report No.: WSCT-A2LA-R&E230300006A-BT

Certificate #5768.01

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

6.7.2. Test Data

Mode	Frequency (MHz)	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
1-DH1	2402	0.375	119.25	317	31600	400	Pass
1-DH1	2441	0.373	118.241	315	31600	400	Pass
1-DH1	2480	0.372	117.18	314	31600	400	Pass
1-DH3	2402	1.631	234.864	167	31600	400	Pass
1-DH3	2441	1.63	270.58	162	31600	400	Pass
1-DH3	2480	1.631	254.436	150	31600	400	Pass
1-DH5	2402	2.879	308.053	105	31600	400	Pass
1-DH5	2441	2.876	313.484	114	31600	400	Pass
1-DH5	2480	2.878	284.922	103	31600	400	Pass

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

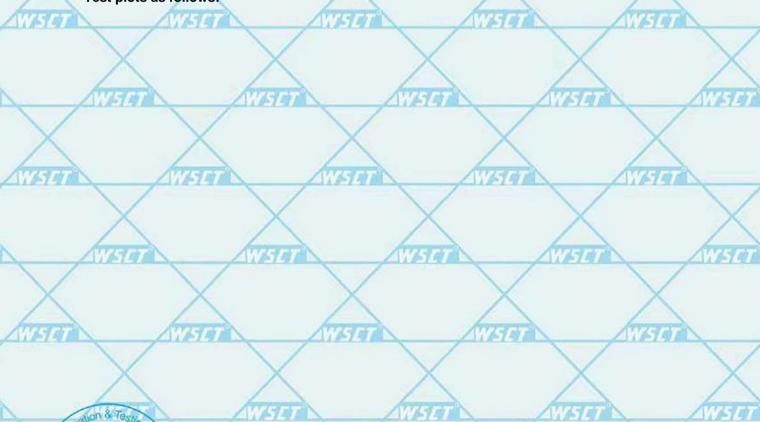
For DH1, With channel hopping rate (1600/2/79) in Occupancy Time Limit (0.4×79) (s), Hops Over Occupancy Time comes to $(1600/2/79) \times (0.4 \times 79) = 320$ hops

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

For DH5, With channel hopping rate (1600 / 6 / 79) in Occupancy Time Limit (0.4×79) (s), Hops Over Occupancy Time comes to $(1600 / 6 / 79) \times (0.4 \times 79) = 106.67$ hops

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

Test plots as follows:



WSGT 世标检测认证的 WSGM 来,这个









Report No.: WSCT-A2LA-R&E230300006A-BT







ADD:Building A-B Baoshi Science & Technology Park, Baoshi Road, Bao'an District, Shenzhen, Guangdong, China TEL:86-755-26996192 26992306 FAX 86-756-86376605 E-mail:Fengbing.Wang@wsct-cert.com Http://www.wsct-cert.com







Report No.: WSCT-A2LA-R&E230300006A-BT



Certificate #5768.01 For Question, Please Contact with WSCT www.wsct-cert.com 1-DH1 2441MHz Spectrum Analyzer 1 + Input Z: 50 Ω Corr CCorr PNO Fast Gate Off Avg Type: Log-Power Trig: Video KEYSIGHT Input RF #Atten: 30 dB WWWWW IF Gain: Low Sig Track: Off Trig Delay: -500.0 µs Freq Ref: Int (S) PNNNNN 1 Spectrum ΔMkr1 373.0 μs Ref LvI Offset 2.22 dB Ref Level 20.00 dBm -0.68 dB Scale/Div 10 dB TRIG L\ **1**Δ2 60.0 Center 2.441000000 GHz Res BW 1.0 MHz Span 0 Hz Sweep 10.0 ms (10001 pts) #Video BW 3.0 MHz 5 Marker Table v Function Function Width Function Value Mode 373.0 μs (Δ) 487.0 μs -0.6806 dB -15.44 dBm Mar 10, 2023 7:20:54 AM 1-DH1 2441MHz Spectrum Analyzer 1 Swept SA + PNO: Fast Gate: Off Avg Type: Log-Power Trig: Free Run Input Z: 50 Ω #Atten: 30 dB KEYSIGHT Input: RF 1 2 3 4 5 6 Corr CCorr Freq Ref: Int (S) **w** ** ** ** ** Align: Auto IF Gain: Low Sig Track: Off PNNNNN Ref LvI Offset 2.22 dB Scale/Div 10 dB Ref Level 20.00 dBm Log Span 0 Hz Sweep 31.6 s (10001 pts) Center 2.441000000 GHz #Video BW 3.0 MHz Res BW 1.0 MHz



Mar 10, 2023 7:21:28 AM







Report No.: WSCT-A2LA-R&E230300006A-BT













Report No.: WSCT-A2LA-R&E230300006A-BT















Report No.: WSCT-A2LA-R&E230300006A-BT



Certificate #5768.01 For Question, Please Contact with WSCT











Report No.: WSCT-A2LA-R&E230300006A-BT













Certificate #5768.01

Report No.: WSCT-A2LA-R&E230300006A-BT













Report No.: WSCT-A2LA-R&E230300006A-BT

Certificate #5768.01 For Question,





ADD:Building A-B Baoshi Science & Technology Park, Baoshi Road, Bao'an District, Shenzhen, Guangdong, China TEL:86-755-26996192 26992306 FAX 86-756-86376605 E-mail:Fengbing.Wang@wsct-cert.com Http://www.wsct-cert.com







Report No.: WSCT-A2LA-R&E230300006A-BT













Report No.: WSCT-A2LA-R&E230300006A-BT

Certificate #5768.01

Please Contact with WSCT www.wsct-cert.com

6.8. Pseudorandom Frequency Hopping Sequence

Test Requirement: FCC Part15 C Section 15.247 (a)(1) requirement:

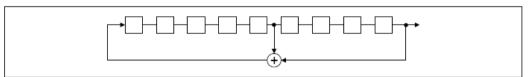
Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

Alternatively. 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, provided the systems operate with an output power no greater than 125 mW. The system shall hop to channel frequencies that are selected at the system hopping rate from a Pseudorandom ordered list of hopping frequencies. Each frequency must be used equally on the average by each transmitter. The system receivers shall have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shall shift frequencies in synchronization with the transmitted signals.

EUT Pseudorandom Frequency Hopping Sequence

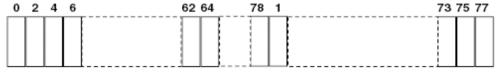
The pseudorandom sequence may be generated in a nine-stage shift register whose 5th and 9th stage outputs are added in a modulo-two addition stage. And the result is fed back to the input of the first stage. The sequence begins with the first one of 9 consecutive ones; i.e. the shift register is initialized with nine ones.

- · Number of shift register stages: 9
- Length of pseudo-random sequence: 2⁹-1 = 511 bits
- Longest sequence of zeros: 8 (non-inverted signal)



Linear Feedback Shift Register for Generation of the PRBS sequence

An example of Pseudorandom Frequency Hopping Sequence as follow:



Each frequency used equally on the average by each transmitter.

The system receivers have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shift frequencies in synchronization with the transmitted signals.











Report No.: WSCT-A2LA-R&E230300006A-BT

Certificate #5768.01

Please Contact with WSCT www.wsct-cert.com

6.9. Conducted Band Edge Measurement

6.9.1. Test Specification

X					
174					
wer the hich fall					
5144					
Transmitting mode with modulation					
the V = 300 at least ithin Hz of 20 dure is repeat ort.					











Report No.: WSCT-A2LA-R&E230300006A-BT

Test Data

GFSK Modulation (the worst case)

Certificate #5768.01

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





ADD:Building A-B Baoshi Science & Technology Park, Baoshi Road, Bao'an District, Shenzhen, Guangdong, China TEL:86/155-26996192 26992306 FAX:86-756-86376665 E-mail: Fengbing Wang@wscl-cert.com Http://www.wscl-cert.com



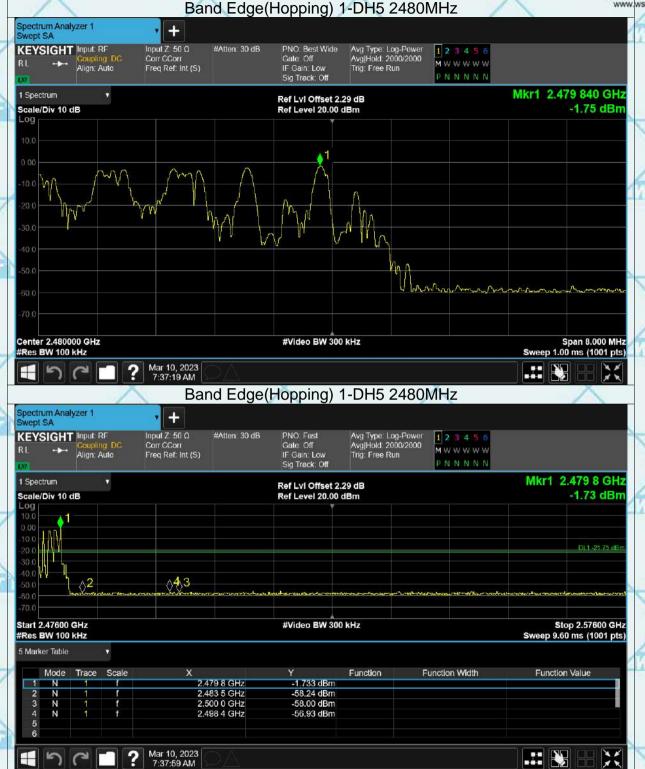




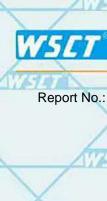
Report No.: WSCT-A2LA-R&E230300006A-BT

Certificate #5768.01

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













Report No.: WSCT-A2LA-R&E230300006A-BT

Certificate #5768.01

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

	WATER	N/STOP A	WSI	77570	Please Contact with WSCT www.wsct-cert.com
NESTO	WSET	7757.0	NVA-7		790
	W-THE	NATE OF THE PARTY.	WEIGH	77514	NI-10
NIFIE	WEIGH	WHI	WES		70
	WATER OF THE PARTY	XX190	VETE	11/19	VI-SIQ I
NEGO	N/STATE	VET 4	VVES		707
	N/E/4	N. F. S.	Visigo	Wester	WEST AND ADDRESS OF THE PARTY O
NVET 4	NIET III	X			198
	N/SIG B	AVE TO A	WETER	WETER	WEIGH
NVET 4 IS	WETER	X	$\langle \ \rangle$		700
	X	17670	VI-101	Wister	N/FIG.
SouthCall	on & Testing Qi				/







Report No.: WSCT-A2LA-R&E230300006A-BT

Certificate #5768.01

Please Contact with WSCT www.wsct-cert.com

6.10. Conducted Spurious Emission Measurement

6.10.1. Test Specification

Test Requirement:	FCC Part15 C Section 15.247 (d)						
Test Method:	ANSI C63.10:2014						
Limit:	In any 100 kHz bandwidth outside the intentional radiation frequency band, the radio frequency power shall be at least 20 dB below the highest level of the radiated power. In addition, radiated emissions which fall in the restricted bands must also comply with the radiated emission limits.						
Test Setup:	Spectrum Analyzer EUT						
Test Mode:	Transmitting mode with modulation						
Test Procedure:	 The testing follows the guidelines in Spurious RF Conducted Emissions of ANSI C63.10:2014 Measurement Guidelines The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement. Set to the maximum power setting and enable the EUT transmit continuously. Set RBW = 100 kHz, VBW = 300kHz, scan up through 10th harmonic. All harmonics / spurs must be at least 20 dB down from the highest emission level within the authorized band as measured with a 100 kHz RBW. Measure and record the results in the test report. The RF fundamental frequency should be excluded against the limit line in the operating frequency band. 						
Test Result:	PASS						











Report No.: WSCT-A2LA-R&E230300006A-BT

Test Data

GFSK mode

Certificate #5768.01

Please Contact with WSCT www.wsct-cert.com







ADD:Building A-B Baoshi Science & Technology Park, Baoshi Road, Bao'an District, Shenzhen, Guangdong, China TEL:86/755-26996192 26992306 FAX:86-756-86376605 E-mail:Fengbing.Wang@wsct-cert.com http://www.wsct-cert.com



1 Spectrum

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





Report No.: WSCT-A2LA-R&E230300006A-BT

Certificate #5768.01 For Question, Please Contact with WSCT www.wsct-cert.com 1-DH5 2441MHz Spectrum Analyzer 1 + Input Z: 50 Ω Corr CCorr PNO: Best Wide Gate: Off Avg Type: Log-Power Avg[Hold: 100/100 KEYSIGHT Input RF #Atten: 20 dB MWWWWW IF Gain: Low Sig Track: Off Freq Ref: Int (S) Trig: Free Run PNNNNN Mkr1 2,440 840 45 GHz Ref LvI Offset 2.22 dB Scale/Div 10 dB Ref Level 12.22 dBm 1.88 dBm Marken and Mille (sout) Center 2.4410000 GHz #Res BW 100 kHz Span 1.500 MHz Sweep 2.00 ms (30001 pts) #Video BW 300 kHz Mar 10, 2023 7:44:34 AM 1-DH5 2441MHz Spectrum Analyzer 1 Swept SA + Avg Type Log-Power Avg|Hold: 10/10 Trig: Free Run PNO Fast Gate Off Input Z: 50 Ω #Atten: 20 dB KEYSIGHT Input RF 1 2 3 4 5 6 MWWWWW Align: Auto Freq Ref: Int (S) IF Gain: Low Sig Track: Off PNNNNN Mkr1 2.440 5 GHz Ref LvI Offset 2.22 dB 1.89 dBm Scale/Div 10 dB Ref Level 12.22 dBm DL1-18-13 dB 04 05 Start 30 MHz #Video BW 300 kHz Stop 26.50 GHz #Res BW 100 kHz Sweep ~2.53 s (30001 pts) 5 Marker Table Scale Function Function Width Function Value Mode Trace



ADD:Building A-B Baoshi Science & Technology Park, Baoshi Road, Bao'an District, Shenzhen, Guangdong, China TEL:86-755-26996192 26992306 FAX 86-756-86376605 E-mail:Fengbing.Wang@wsct-cert.com Http://www.wsct-cert.com

1.891 dBm

-56.21 dBm -56.21 dBm -64.60 dBm

-64.42 dBm

2.440 5 GHz

4.882 0 GHz 4.882 0 GHz 7.126 6 GHz 9.808 9 GHz

Mar 10, 2023 7:45:06 AM







Report No.: WSCT-A2LA-R&E230300006A-BT

Certificate #5768.01

For Question,
Please Contact with WSCT









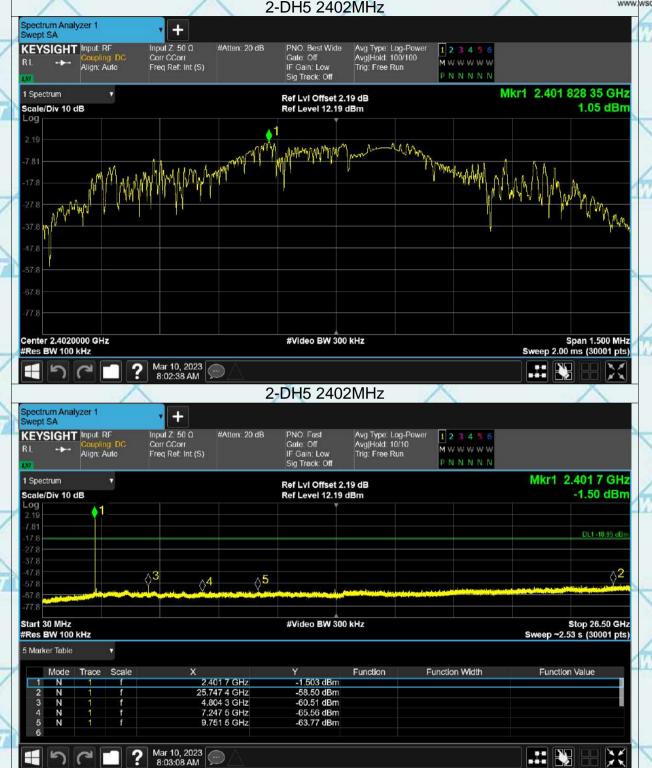




Report No.: WSCT-A2LA-R&E230300006A-BT Pi/4DQPSK mode

Certificate #5768.01

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





ADD:Building A-B Baoshi Science & Technology Park, Baoshi Road, Bao'an District, Shenzhen, Guangdong, China TEL:86/755-26996192 26992306 FAX 86-755-86376605 E-mail: Fengbing Wang@wscl-cert.com Http://www.wscl-cert.com







Report No.: WSCT-A2LA-R&E230300006A-BT













Report No.: WSCT-A2LA-R&E230300006A-BT

Certificate #5768.01











ACCREDITED Report No.: WSCT-A2LA-R&E230300006A-BT Certificate #5768.01

For Ouestion 8DPSK mode Please Contact with WSCT www.wsct-cert.com 3-DH5 2402MHz Spectrum Analyzer 1 Swept SA + Input Z: 50 Ω Corr CCorr PNO: Best Wide Gate: Off Avg Type: Log-Power Avg[Hold: 100/100 KEYSIGHT Input RF #Atten: 20 dB MWWWWW IF Gain: Low Sig Track: Off Freq Ref: Int (S) Trig: Free Run PNNNNN 1 Spectrum Mkr1 2.401 825 90 GHz Ref LvI Offset 2.19 dB Ref Level 12.19 dBm Scale/Div 10 dB 0.51 dBm My hy hy brown paras born for which is no Center 2.4020000 GHz #Res BW 100 kHz Span 1.500 MHz Sweep 2.00 ms (30001 pts) #Video BW 300 kHz Mar 10, 2023 8:31:34 AM 3-DH5 2402MHz Spectrum Analyzer 1 Swept SA + Avg Type Log-Power Avg|Hold: 10/10 Trig: Free Run PNO Fast Gate Off Input Z: 50 Ω #Atten: 20 dB KEYSIGHT Input RF 1 2 3 4 5 6 Corr CCorr Freq Ref: Int (S) MWWWWW Align: Auto IF Gain: Low Sig Track: Off PNNNNN Mkr1 2.401 7 GHz Ref LvI Offset 2.19 dB 0.03 dBm Scale/Div 10 dB Ref Level 12.19 dBm DL1-19.49 dB 04 15 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 Trace Scale Function Mode 2.401 7 GHz 0.02787 dBm 26.201 8 GHz 4.804 3 GHz 7.266 9 GHz 9.777 1 GHz -59.09 dBm -60.44 dBm N 2 3 4 5 6 -65.25 dBm -65.41 dBm Mar 10, 2023 8:32:04 AM









Report No.: WSCT-A2LA-R&E230300006A-BT











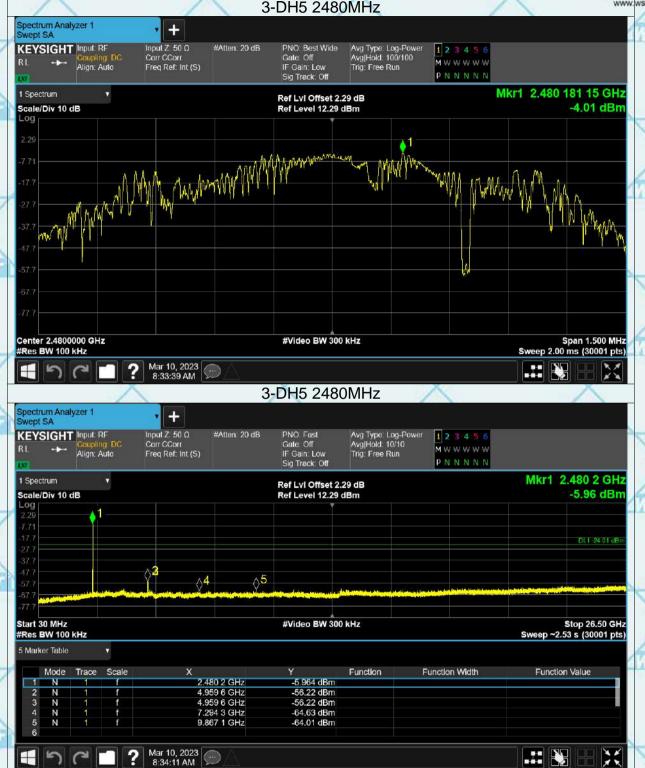




Report No.: WSCT-A2LA-R&E230300006A-BT

Certificate #5768.01

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











Report No.: WSCT-A2LA-R&E230300006A-BT

Certificate #5768.01

30

30

3

3

3

3

Please Contact with WSCT www.wsct-cert.com

6.11. Radiated Spurious Emission Measurement

6.11.1. Test Specification

6.11.1. Test Specification	\/		1			
Test Requirement:	FCC Part15	C Sectio	n 15.209		X	
Test Method:	ANSI C63.10):2014	11779	1	17699	
Frequency Range:	9 kHz to 25 GHz 3 m					
Measurement Distance:						
Antenna Polarization:	Horizontal &	Vertical	1	ATH	4	
	Frequency	Detector	RBW	VBW	Remark	
X	9kHz- 150kHz	Quasi-pea	ak 200Hz	1kHz	Quasi-peak Value	
	150kHz-	Quasi-pea	ak 9kHz	30kHz	Quasi-peak Value	
Receiver Setup:	30MHz		11/5/20		WATE	
	30MHz-1GHz	Quasi-pea	ak 100KHz	300KHz	Quasi-peak Value	
	Above 1GHz	Peak	1MHz	3MHz	Peak Value	
	Above 1G112	Peak	1MHz	10Hz	Average Value	
WESTER WESTER	Frequen	CV 55	Field Stre		Measurement	
			(microvolts	,	Distance (meters)	
	0.009-0.4	190	2400/F(I	(Hz)	300	

0.490-1.705

1.705-30

30-88

88-216

216-960

Above 960

Limit:

Frequency	Field Strength (microvolts/meter)	Measurement Distance (meters)	Detector
About 4011	500	3	Average
Above 1GHz	5000	3	Peak

24000/F(KHz)

30

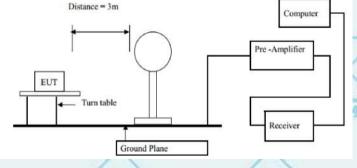
100

150

200

500

For radiated emissions below 30MHz



30MHz to 1GHz

WSGT

DUOM * PAT

(Shenz

Test setup:

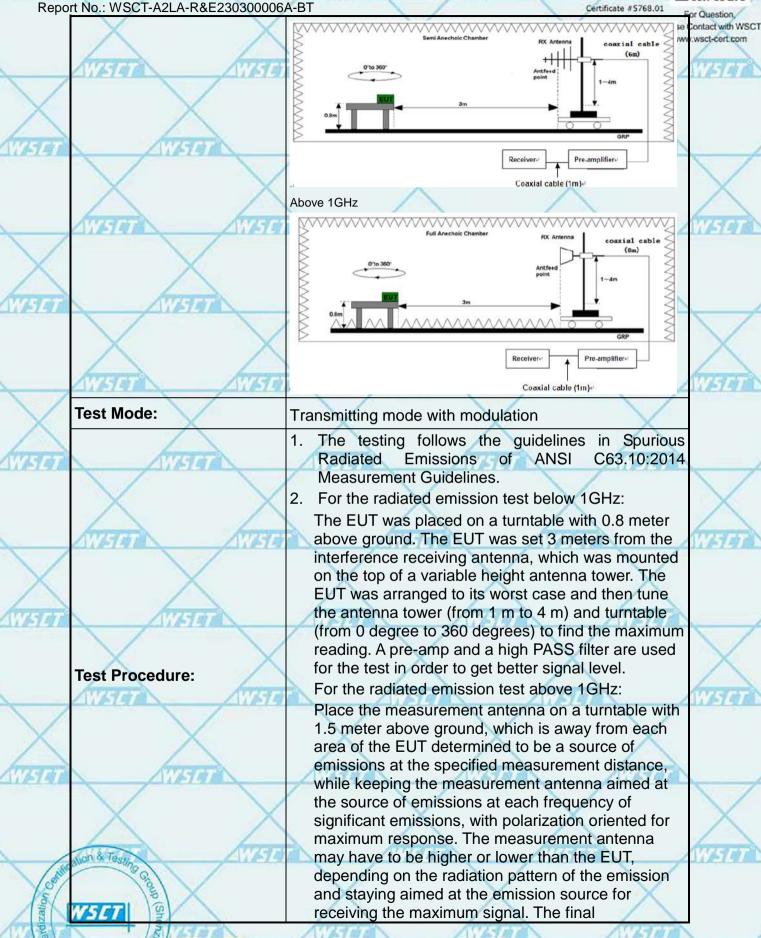
MACE AND A TO SEN CO. Ltd.



















Reno	rt No · WSCT-A2I	_A-R&E230300006A	-BT	CIAM	-	144	Certificate #5768.01		DATE:
Коро	11110:: WOOT 7121	T RULE 200000000		easuremen	t antenna e	levation sh	all be that whi	For C	Question, tact with WS0
				aximizes th					sct-cert.com
	Modera	10000					issions shall b	e A	77333
	CIPITA	1019			5-7 FW 100 -No.		om 1 m to 4 m	/ / /	E148
				bove the gro					
			3. S	Set to the m	naximum po	wer setting	and enable	the	
ATTION	· h	7334		UT transmi			Kinga	-	
41414		F13 M	4. L	Jse the follo	wing spectr	um analyz	er settings:	-	- /
				(1) Span sha	all wide eno	ugh to fully	capture the		/
	\wedge	\wedge		\	n being mea			5	
	ATTA THE	10230		(2) Set RBW	√=100 kHz f	for f < 1 GH	lz, RBW=1MH	lz /	12333
1	CIPI A	DIFIA	-		Hz ; VBW≥F		134	1	CIA.
				Sweep	= auto; Dete	ector functi	on = peak; Tra	ace	
				= max h	hold for peal	k			
WSFT	(A	25141	10	(3) For ave	rage measu	irement: us	se duty cycle		
				correcti	on factor me	ethod per	1	1	/
	X	X		15.35(c).	. Duty cycle	= On time	100 millisecor	nds	X
				On time	=N1*L1+N2	2*L2++Nr	n-1*LNn-1+Nn	*Ln	
	17294	17774		Where	N1 is numb	er of type 1	pulses, L1 is	1	75707
			1	length o	of type 1 pul	ses, etc.		/	
X		X		Average	e Emission	Level = Pe	ak Emission		
	,		1	Level +	20*log(Duty	y cycle)			
AYSET		4744	1	Correcte	d Reading:	Antenna F	actor + Cable	7	
							actor = Level		/
	Test results:	X	PASS	3	X		X		X
	A CONTROLLOR	homograph	7100	ha	and	free			
	Z1614B	11111	1	/\\'i\	6798	110	74 M	1	产了中国
	,				1				
					/				
ATTENDED TO	6	7344	1	11300	Aug.	743	house	1	
	1	F138	11	PINE	- July	14	1019	-	
	V				Y		V		/
				/		/			/











Report No.: WSCT-A2LA-R&E230300006A-BT

Certificate #5768.01

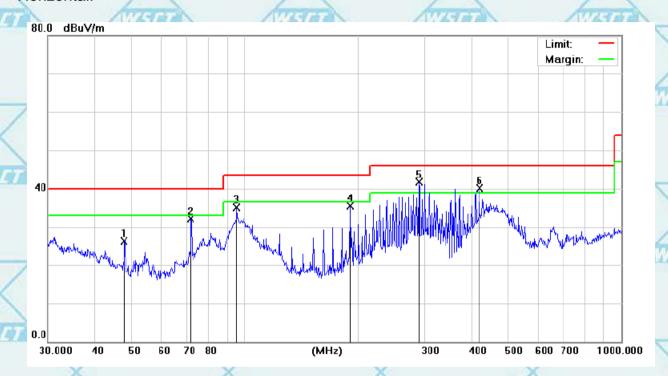
For Question,
Please Contact with WSCT
www.wsct-cert.com

6.11.2. Test Data

Please refer to following diagram for individual

Horizontal:





No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	Taral .
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1	/	47.8260	29.95	-3.72	26.23	40.00	-13.77	QP
2	All	71.8320	39.20	-7.03	32.17	40.00	-7.83	QP
3		95.0930	40.00	-4.84	35.16	43.50	-8.34	QP
4	1	190.4050	42.68	-7.18	35.50	43.50	-8.00	QP
745	* 2	290.0172	44.37	-2.72	41.65	46.00	-4.35	QP
6	! 4	19.1081	40.85	-0.78	40.07	46.00	-5.93	QP



ADD:Building A-B Baoshi Science & Technology Park, Baoshi Road, Bao'an District, Shenzhen, Guangdong, China TEL:86/755-26996192 26992306 FAX:86-755-86376605 E-mail:Fengbing.Wang@wsct-cert.com Http://www.wsct-cert.com





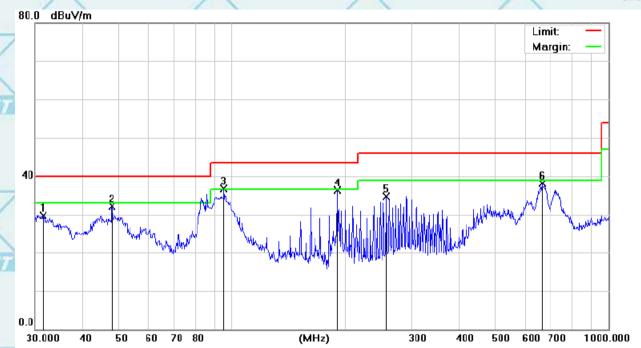




Report No.: WSCT-A2LA-R&E230300006A-BT Vertical:

Certificate #5768.01

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



	No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	THA.
			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
	1	/	31.5095	25.58	4.22	29.80	40.00	-10.20	QP
	2	1	47.9940	35.92	-3.82	32.10	40.00	-7.90	QP
-	3	*	95.0930	41.59	-4.84	36.75	43.50	-6.75	QP
	4		190.4050	43.55	-7.18	36.37	43.50	-7.13	QP
	5	1	257.4222	39.14	-4.35	34.79	46.00	-11.21	QP
\	6	(665.8035	36.24	1.90	38.14	46.00	-7.86	QP

Note: 1.The low frequency, which started from 9KHz~30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported

2. Measurements were conducted in all three channels (high, middle, low) and three modulation (GFSK, Pi/4 DQPSK, 8DPSK) and the worst case Mode (Lowest channel and GFSK) was submitted only.

3. Freq. = Emission frequency in MHz
Reading level (dBµV) = Receiver reading
Corr. Factor (dB) = Antenna factor + Cable loss - Amplifier factor.
Measurement (dBµV) = Reading level (dBµV) + Corr. Factor (dB)
Limit (dBµV) = Limit stated in standard
Margin (dB) = Measurement (dBµV) - Limits (dBµV)



OHOM * PA

(Shen

ADD:Building A-B Baoshi Science & Technology Park, Baoshi Road, Bao an District, Shenzhen, Guangdong, China TEL:86-755-26996192 26992306 FAX-86-755-86376605 E-mail:Fengbing.Wang@wsci-cert.com Http://www.wsci-cert.com









Report No.: WSCT-A2LA-R&E230300006A-BT

Certificate #5768.01

Please Contact with WSCT www.wsct-cert.com

Above 1GHz

GFSK

Frog	Low channel: 2402MHz								
Freq. (MHz)	Ant.Pol	Emission I	_evel(dBuV)	Limit 3m(dBuV/m)		Over(dB)			
(IVITIZ)	H/V	PK	AV	PK	AV	PK	AV		
4804	w.cV	58.02	40.50	74	54	-15.98	-13.50		
7206	V	59.15	39.77	74	54	-14.85	-14.23		
4804	Н	59.11	40.42	74	54	-14.89	-13.58		
7206	Η	59.28	40.28	74	54	-14.72	-13.72		

	All I I I all the sale with the		J. I. I. J. and make add to	217	Total will make with the	201	To all the all to			
	Freq. (MHz)	Middle channel: 2441MHz								
		Ant.Pol	Emission Level(dBuV)		Limit 3m(dBuV/m)		Over(dB)			
		H/V	PK	AV	PK	AV	PK	AV		
١	4882	V	59.75	39.95	74	54	-14.25	-14.05		
	7323	V	58.56	39.26	74	54	-15.44	-14.74		
	4882	Η	58.01	39.97	74	54	-15.99	-14.03		
	7323	Η	58.33	39.33	74	54	-15.67	-14.67		

	A STATE OF THE PARTY OF THE PAR			100	The state of the s		The second second			
**	Eroa	High channel: 2480MHz								
	Freq. (MHz)	Ant.Pol	Emission L	_evel(dBuV)	Limit 3m	(dBuV/m)	Ove	r(dB)		
		H/V	PK	AV	PK	AV	PK	AV		
1	4960	V	60.37	41.86	74	54	-13.63	-12.14		
	7440		58.53	39.46	74	54	-15.47	-14.54		
	4960	Н	58.51	39.89	74	54	-15.49	-14.11		
	7440	Н	58.43	39.43	74	54	-15.57	-14.57		

Note:

- 1. The emission levels of other frequencies are very lower than the limit and not show in test report.
- 2. Measurements were conducted from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 3. Data of measurement shown "---"in the above table mean that the reading of emissions is attenuated more than 20 dB below the limits or the field strength is too small to be measured.
- Measurements were conducted in all three modulation (GFSK, Pi/4 DQPSK, 8DPSK), and the worst case Mode (GFSK) was submitted only.

Warld Standard Standa

See Mister

VISTA NVSTA

WEL









Certificate #5768.01

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

Report No.: WSCT-A2LA-R&E230300006A-BT Restricted Bands Requirements

Test result for GFSK Mode(the worst case)

OF CI CIT IVI	ouc (the W	orst case)	1112 d ab	all Comments	1772-4	and and
Reading	Correct Factor	Emission Level	Limit	Margin	Polar	Detector
(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	H/V	
ATTERE		Low Cha	nnel	KINGE	-	1012
64.70	-8.76	55.94	74	18.06	H	PK
53.72	-8.76	44.96	54	9.04	Н	AV
62.11	-8.73	53.38	74	20.62	V	PK
55.93	-8.73	47.20	54	6.80	V	AV
60.83	-8.76	52.07	74	21.93	Η	PK
54.47	-8.76	45.71	54	8.29	Т	AV
59.46	-8.73	50.73	74	23.27	V	PK
57.25	-8.73	48.52	54	5.48	V	AV
	X	High Cha	nnel		X	
62.04	-8.76	53.28	74	20.72	H	PK
54.51	-8.76	45.75	54	8.25	1111	AV
61.59	-8.73	52.86	74	21.14	V	PK
54.42	-8.73	45.69	54	8.31	V	AV
	Reading (dBuV/m) 64.70 53.72 62.11 55.93 60.83 54.47 59.46 57.25 62.04 54.51 61.59	Reading (dBuV/m) Correct Factor 64.70 -8.76 53.72 -8.76 62.11 -8.73 55.93 -8.73 60.83 -8.76 54.47 -8.76 59.46 -8.73 57.25 -8.73 62.04 -8.76 54.51 -8.76 61.59 -8.73	Reading (dBuV/m) Correct Factor Emission Level 64.70 -8.76 55.94 53.72 -8.76 44.96 62.11 -8.73 53.38 55.93 -8.73 47.20 60.83 -8.76 52.07 54.47 -8.76 45.71 59.46 -8.73 50.73 57.25 -8.73 48.52 High Cha 62.04 -8.76 53.28 54.51 -8.76 45.75 61.59 -8.73 52.86	Reading (dBuV/m) Correct Factor Emission (dBuV/m) Limit (dBuV/m) Low Channel 64.70 -8.76 55.94 74 53.72 -8.76 44.96 54 62.11 -8.73 53.38 74 55.93 -8.73 47.20 54 60.83 -8.76 52.07 74 54.47 -8.76 45.71 54 59.46 -8.73 50.73 74 57.25 -8.73 48.52 54 High Channel 62.04 -8.76 53.28 74 54.51 -8.76 45.75 54 61.59 -8.73 52.86 74	Reading (dBuV/m) Correct Factor Emission Level Limit Level Margin Low Channel 64.70 -8.76 55.94 74 18.06 53.72 -8.76 44.96 54 9.04 62.11 -8.73 53.38 74 20.62 55.93 -8.73 47.20 54 6.80 60.83 -8.76 52.07 74 21.93 54.47 -8.76 45.71 54 8.29 59.46 -8.73 50.73 74 23.27 57.25 -8.73 48.52 54 5.48 High Channel 62.04 -8.76 53.28 74 20.72 54.51 -8.76 45.75 54 8.25 61.59 -8.73 52.86 74 21.14	Factor Level (dBuV/m) (dBuV/m) (dB) H/V Low Channel 64.70 -8.76 55.94 74 18.06 H 53.72 -8.76 44.96 54 9.04 H 62.11 -8.73 53.38 74 20.62 V 55.93 -8.73 47.20 54 6.80 V 60.83 -8.76 52.07 74 21.93 H 54.47 -8.76 45.71 54 8.29 H 59.46 -8.73 50.73 74 23.27 V 57.25 -8.73 48.52 54 5.48 V High Channel 62.04 -8.76 53.28 74 20.72 H 54.51 -8.76 45.75 54 8.25 H 61.59 -8.73 52.86 74 21.14 V

Note: Freq. = Emission frequency in MHz Reading level ($dB\mu V$) = Receiver reading

Corr. Factor (dB) = Attenuation factor + Cable loss

Level $(dB\mu V)$ = Reading level $(dB\mu V)$ + Corr. Factor (dB)

*****END OF REPORT****

Warld Standard Standa

NISTATE WISTATE

ADD:Building A-B Baoshi Science & Technology Park, Baoshi Road, Bao'an District, Shenzhen, Guangdong, China TEL:86/755-26996192 26992306 FAX:86-755-86376605 E-mail:Fengbing.Wang@wsct-cert.com Http://www.wsct-cert.com