



RADIO TEST REPORT

Article 2 paragraph 1 item (1)-12

MIC Notice No.88 Appendix No.7

Product : UHF Compact Wireless Microphone System
(Transmitter)

Trade Mark : Godox

Model Name : WMicS2 TX2

Family Model : N/A

Report No. : S22091301609001

Prepared for

GODOX Photo Equipment Co.,Ltd.

4th Floor of Building 1, 1st to 4 th Floor of Building 2, 4th Floor of Building 3, 1st to 4th
Floor of Building 4, Yaochuan Industrial Zone, Tangwei Community, Fuhai Street,
Bao'an District, Shenzhen 518103, China

Prepared by

Shenzhen NTEK Testing Technology Co., Ltd.

1/F, Building E, Fenda Science Park, Sanwei Community, Xixiang Street
Bao'an District, Shenzhen 518126 P.R. China

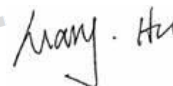
Tel. 400-800-6106, 0755-2320 0050 / 2320 0090

Website: <http://www.ntek.org.cn>

TEST RESULT CERTIFICATION**Applicant's name** GODOX Photo Equipment Co.,Ltd.**Address** 4th Floor of Building 1, 1st to 4 th Floor of Building 2, 4th Floor of Building 3, 1st to 4th Floor of Building 4, Yaochuan Industrial Zone, Tangwei Community, Fuhai Street, Bao'an District, Shenzhen 518103, China**Manufacturer's Name** GODOX Photo Equipment Co.,Ltd.**Address** 4th Floor of Building 1, 1st to 4 th Floor of Building 2, 4th Floor of Building 3, 1st to 4th Floor of Building 4, Yaochuan Industrial Zone, Tangwei Community, Fuhai Street, Bao'an District, Shenzhen 518103, China**Test specification:****Standard** Article 2 paragraph 1 item (1)-12
MIC Notice No.88 Appendix No.7**Test item description****Product name** UHF Compact Wireless Microphone System (Transmitter)**Model and/or type reference** WMicS2 TX2**Rating(s)** DC 3.8V from Batteries or DC 5V from Type-C port

This device described above has been tested by NTEK, and the test results show that the equipment under test (EUT) is in compliance with MIC requirements. And it is applicable only to the tested sample identified in the report.

This report shall not be reproduced except in full, without the written approval of NTEK, this document may be altered or revised by Shenzhen NTEK Testing Technology Co., Ltd. personnel only, and shall be noted in the revision of the document

Testing**Date of receipt of test item** Nov 10. 2022**Date (s) of performance of tests** ... Nov 10. 2022 ~ Feb 14. 2022**Date of Issue** Feb 14. 2023**Test Result** **Pass****Testing Engineer** :

(Mary Hu)

Authorized Signatory :

(Alex Li)

※ ※ Revision History ※ ※

REV.	REPORT NO.	Page Revised	ISSUED DATE	Contents
Original	S22091301609001	Rev.01	Feb 14. 2023	N/A
--	--	--	--	--

Table of Contents

	Page
1 . SUMMARY OF TEST RESULTS	6
1.1 TEST FACILITY	7
1.2 MEASUREMENT UNCERTAINTY	7
2 . GENERAL INFORMATION	8
2.1 GENERAL DESCRIPTION OF EUT	8
2.2 DESCRIPTION OF TEST MODES	10
2.3 TEST CONDITIONS	11
2.4 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED	12
2.5 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)	12
2.6 EQUIPMENTS LIST FOR ALL TEST ITEMS	13
3 . FREQUENCY TOLERANCE	14
3.1 LIMIT	14
3.2 TEST PROCEDURES	14
3.3 TEST RESULT	15
4 . OCCUPIED BANDWIDTH	17
4.1 LIMIT	17
4.2 TEST PROCEDURES	17
4.3 TEST RESULT	17
5 . ANTENNA POWER & ANTENNA POWER TOLERANCE	19
5.1 LIMIT	19
5.2 TEST PROCEDURES	19
5.3 TEST RESULT	19
6 . TRANSMITTER SPURIOUS EMISSIONS AND OUT-OF-BAND EMISSIONS	20
6.1 LIMIT	20
6.2 TEST PROCEDURES	20
6.3 TEST RESULT	20
7 . ADJACENT CHANNEL LEAKAGE POWER	24
7.1 LIMIT	24
7.2 TEST PROCEDURES	24
7.3 TEST RESULT	24
8 . MAXIMUM FREQUENCY DEVIATION	26

Table of Contents

Page

8.1 LIMIT	26
8.2 TEST PROCEDURES	26
8.3 TEST RESULT	26

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

Standard	Method	Description of Test	Result
Article 2 paragraph 1 item (1)-12	MIC Notice No.88 Appendix No.7.4	Frequency Tolerance	Complies
	MIC Notice No.88 Appendix No.7.5	Occupied Bandwidth	Complies
	MIC Notice No.88 Appendix No.7.6	Transmitter Spurious Emission and Out-of-band Emission	Complies
	MIC Notice No.88 Appendix No.7.7	Antenna Power & Antenna Power Tolerance	Complies
	MIC Notice No.88 Appendix No.7.9	Adjacent Channel Leakage Power	Complies
	MIC Notice No.88 Appendix No.7.10	Maximum Frequency Deviation	Complies

NOTE:

(1) "N/A" denotes test is not applicable in this Test Report

1.1 TEST FACILITY

Shenzhen NTEK Testing Technology Co., Ltd.

Add. : 1/F, Building E, Fenda Science Park, Sanwei Community, Xixiang Street Bao'an District, Shenzhen 518126 P.R. China

FCC Registration No.:463705; IC Registration No.:9270A-1

CNAS Registration No.:L5516

1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y \pm U$, where expanded 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	Uncertainty
1	Frequency Tolerance	$\pm 5\text{ppm}$
2	Occupied Bandwidth	$\pm 5\text{Hz}$
3	Antenna Power & Antenna Power Tolerance	$\pm 1.5\text{dB}$
4	Transmitter Spurious Emissions and Out-of-band Emissions	$\pm 1.5\text{dB}$
5	Adjacent Channel Leakage Power	$\pm 1.5\text{dB}$
6	Maximum Frequency Deviation	$\pm 5\text{kHz}$

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	UHF Compact Wireless Microphone System (Transmitter)	
Model Name	WMicS2 TX2	
Trade Mark	Godox	
Family Model	N/A	
Model Difference	N/A	
Product Description	The EUT is a UHF Compact Wireless Microphone System (Transmitter)	
	Operation Frequency:	514.56 MHz~553.92MHz
	Modulation Type:	FM
	Equipment category	Analogue systems
	Antenna Designation:	External Antenna
	Antenna Gain (dBi)	TX:1.60dBi
Rating(s)	DC 3.8V from Batteries or DC 5V from Type-C port	
Adapter	N/A	
Battery	DC 3.8 V, 770mAh	
Hardware Version	TX:20220524H41	
Software Version	V1.0	

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

The transmitting frequency as follow:

2.

Frequency (MHz)	
514.56	534.65
514.97	535.06
515.38	535.47
.....
.....
.....
.....
.....
.....
533.01	553.10
533.42	553.51
533.83	553.92

2.2 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.

Pretest Mode	Description
Mode 1	514.56MHz
Mode 2	534.65MHz
Mode 3	553.92MHz

Final Test Mode	Description
Mode 1	514.56MHz
Mode 2	534.65MHz
Mode 3	553.92MHz

2.3 TEST CONDITIONS

The EUT was tuned to a low, middle, and high Freq. for all tests. For all test case pre/scans were completed in all Modes to determine worst case levels.

Power Supply Voltage Fluctuation Test

Voltage Fluctuation Test	Normal Voltage	High Voltage + 10% of Normal Voltage	Low Voltage - 10% of Normal Voltage
DC Power	DC 3.8V	DC 3.42V	DC 4.18V
RF Chip	DC 3.3V	DC 3.3V	DC 3.3V

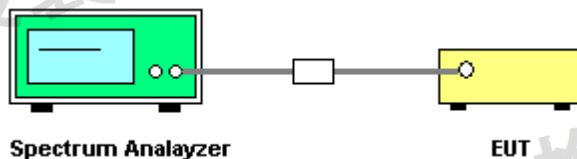
NOTE:

Voltage Variation (%)

= (Output high or Low Voltage - Output Normal Voltage) / Output Normal Voltage * 100

During the input supply voltage to the EUT from the external power source is varied by +/- 10%, + / - 10% of the external power change, will not affect the voltage of the RF, so only operated in normal voltage to test all regulations.

2.4 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



2.5 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.

Item	Equipment	Model/Type No.	Series No.	Note
E-1	UHF Compact Wireless Microphone System (Transmitter)	WMicS2 TX2	N/A	EUT

Item	Shielded Type	Ferrite Core	Length	Note

Note:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in cm in 『Length』 column.
- (3) “YES” is means “shielded” “with core”; “NO” is means “unshielded” “without core”.

2.6 EQUIPMENTS LIST FOR ALL TEST ITEMS

Test equipment

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	SPECTRUM ANALYZER	AGLIENT	E4440A	MY41000130	2022.04.01	2023.03.31	1 year
2	SPECTRUM ANALYZER	AGILENT	N9020A	MY49100060	2022.06.16	2023.06.15	1 year
3	TEST RECEIVER	R&S	ESPI7	101318	2022.04.06	2023.04.05	1 year
4	50Ω COAXIAL SWITCH	ANRITSU	MP59B	6200983705	2020.05.11	2023.05.10	3 year
5	HORN ANTENNA	EM	EM-AH-10180	2011071402	2022.03.31	2023.03.30	1 year
6	HORN ANT	SCHWARZBECK	BBHA 9170	9170-181	2022.04.06	2023.04.05	1 year
7	PRE-AMPLIFIER	EMC	EMC051835SE	980246	2022.06.17	2023.06.16	1 year
8	POWER METER	DARE	RPR3006W	15100041SN084	2022.06.16	2023.06.15	1 year
9	TEMPORARY ANTENNA CONNECTOR (NOTE)	NTS	R001	N/A	N/A	N/A	N/A
10	DC POWER SUPPLY	ZHAOXIN	PS-6005D	20170402923	2020.05.11	2023.05.10	3 year
11	AUDIO TEST SYSTEM	AUDIO PRECISION	ATS-1	41128	2022.04.01	2023.03.31	1 year
12	POWER METER	AGILENT	E4419B	MY45102538	2022.06.17	2023.06.16	1 year
13	POWER SENSOR	AGILENT	E9301A	MY41495644	2022.06.17	2023.06.16	1 year
14	POWER SENSOR	AGILENT	E9301A	US39212148	2022.06.17	2023.06.16	1 year

Note: All the equipments for Guangzhou Lisai Calibration.

3. FREQUENCY TOLERANCE

3.1 LIMIT

Item	Limits
Frequency Tolerance	$\pm 20\text{ppm}$

3.2 TEST PROCEDURES

The EUT was operated in CW carrier mode (unmodulated). The frequency was measured by the use of the frequency counter capability of a CW Microwave Frequency Counter

3.3 TEST RESULT

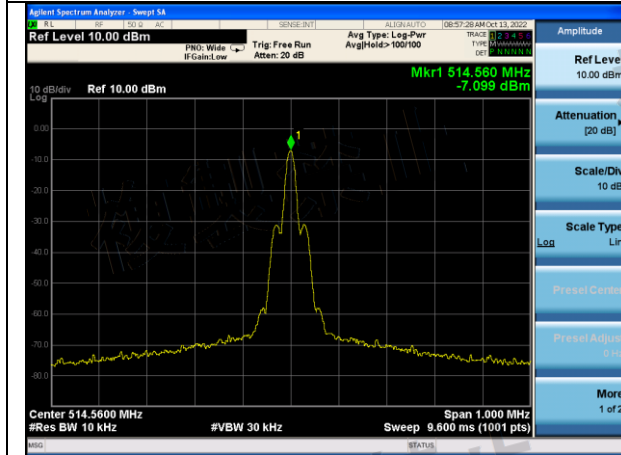
EUT :	UHF Compact Wireless Microphone System (Transmitter)	Model:	WMicS2 TX2
Temperature:	25℃	Tested by:	Mary Hu
Humidity:	55 % RH	Test Voltage	DC 3.8V(normal)
Operation Mode:	Mode 1/2/3		

Voltage	Nominal TX Frequency	Deviation from Nominal Frequency (ppm)	Limit (ppm)
DC 3.8V	Low (514.56 MHz)	0.00	$\leq \pm 20$
	Middle (534.65 MHz)	0.00	
	High (553.92 MHz)	-1.81	
DC 3.42V	Low (514.56 MHz)	0.03	
	Middle (534.65 MHz)	0.03	
	High (553.92 MHz)	-1.23	
DC 4.18 V	Low (514.56 MHz)	0.04	
	Middle (534.65 MHz)	0.04	
	High (553.92 MHz)	0.05	

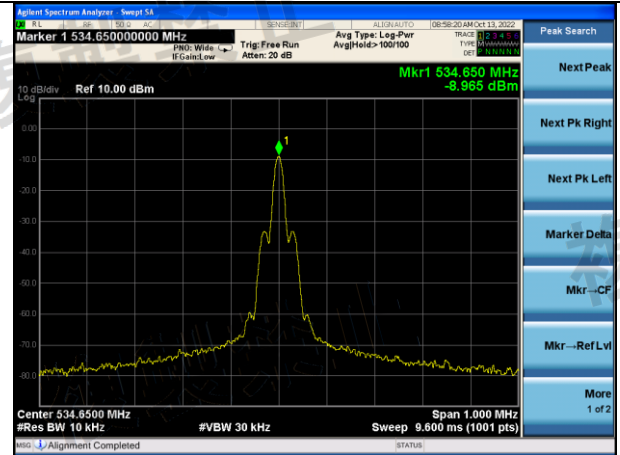
Center Frequency Conditional	Low Channel 514.56 MHz	MiddleChannel 534.65 MHz	High Channel 553.92 MHz	Limit ppm	Result
Normal					
Measured Frequency(MHz)	514.5603	534.6502	553.9205	--	--
Frequency Tolerance(MHz))	0.58	0.37	0.90	20	PASS
<After vibration>					
Measured Frequency(MHz)	514.5609	534.6506	553.9204	--	--
Frequency Tolerance(MHz))	1.75	1.12	0.72	20	PASS
<During high temperature>					
Measured Frequency(MHz)	514.5607	534.6503	553.9208	--	--
Frequency Tolerance(MHz))	1.36	0.56	1.44	20	PASS
<During low temperature>					
Measured Frequency(MHz)	514.5605	534.6509	553.9206	--	--
Frequency Tolerance(MHz))	0.97	1.68	1.08	20	PASS
<After high humidity>					
Measured Frequency(MHz)	514.5603	534.6504	553.9202	--	--
Frequency Tolerance(MHz))	0.58	0.75	0.36	20	PASS

Normal

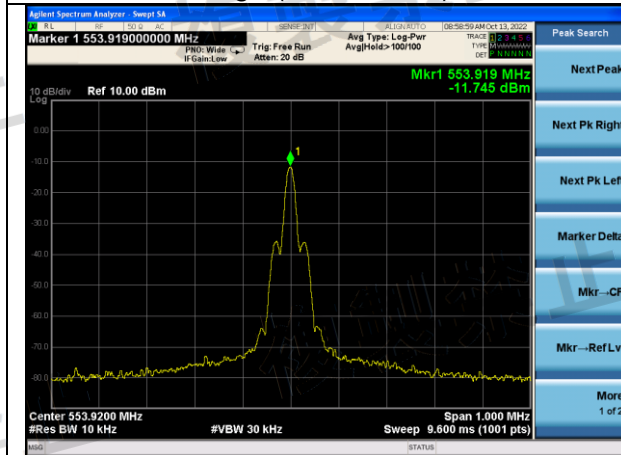
Low (514.56 MHz)



Middle (534.65 MHz)



High (553.92 MHz)



N/A

N/A

4. OCCUPIED BANDWIDTH

4.1 LIMIT

The tolerance of occupied bandwidths shall be as follows depending on different frequency deviations.

Item	Within ± 40 kHz of frequency deviation : 110 kHz	Between ± 40 kHz and ± 60 kHz of frequency deviation : 160 kHz	Between ± 60 kHz and ± 150 kHz of frequency deviation : 330 kHz	Stereo transmission System : 250 kHz
Limits	110 kHz	160 kHz	330 kHz	250 kHz

4.2 TEST PROCEDURES

The EUT was operated in continuous transmit mode (modulated). For occupied bandwidth measurement the internal occupied bandwidth measurement capability of Spectrum Analyzer was used. The bandwidth for 99% power was measured.

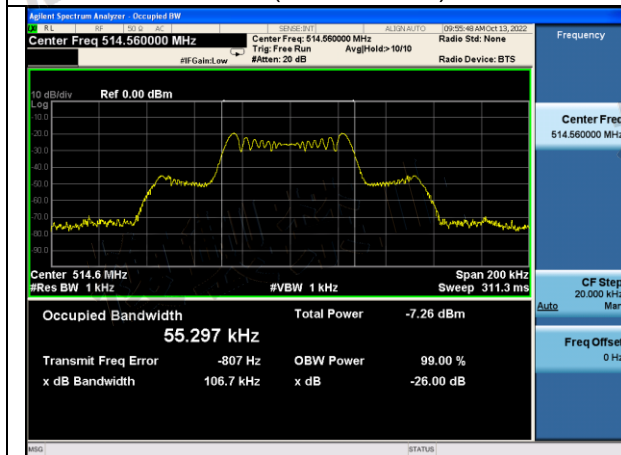
4.3 TEST RESULT

EUT :	UHF Compact Wireless Microphone System (Transmitter)	Model:	WMicS2 TX2
Temperature:	25°C	Tested by:	Mary Hu
Humidity:	55 % RH	Test Voltage	DC 3.8V(normal)
Operation Mode:	Mode 1/2/3		

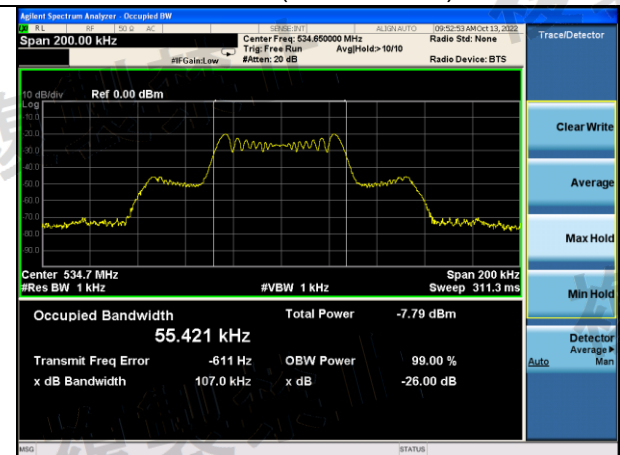
Voltage	Nominal TX Frequency	Occupied Bandwidth (kHz)	Limit (kHz)
DC 3.8V	Low (514.56 MHz)	55.297	≤ 250
	Middle (534.65 MHz)	55.421	
	High (553.92 MHz)	55.295	

Normal

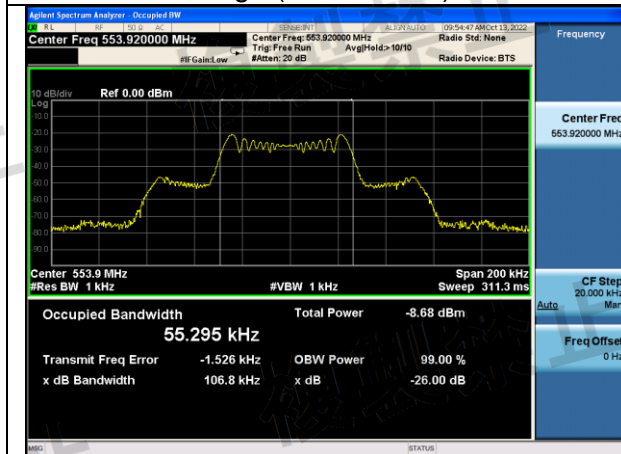
Low (514.56 MHz)



Middle (534.65 MHz)



High (553.92 MHz)



N/A



5. ANTENNA POWER & ANTENNA POWER TOLERANCE

5.1 LIMIT

Designated value of transmitter antenna power shall be 10 mW or less
Tolerance of antenna power shall be within +20 % (upper value) and -50 % (lower value)

5.2 TEST PROCEDURES

The EUT was operated in continuous transmit mode (modulated). The power meter was connected to IF output. The external attenuation was corrected by the power meter correction capability.

5.3 TEST RESULT

EUT:	UHF Compact Wireless Microphone System (Transmitter)	Model:	WMicS2 TX2
Temperature:	25°C	Tested by:	Mary Hu
Humidity:	55 % RH	Test Voltage	DC 3.8V(normal)
Operation Mode:	Mode 1/2/3		

Voltage	TX Frequency	Power Value(dBm)	Power Value(mW)	Rated output (mW)	Tolerance (%)	Upper Limit (%)	Lower Limit (%)
DC 3.8V	Low (514.56 MHz)	-9.418	0.114	0.12	-4.72	20	-50
	Middle (534.65 MHz)	-9.967	0.101	0.12	-16.03	20	-50
	High (553.92 MHz)	-10.82	0.083	0.12	-31.00	20	-50
DC 3.42V	Low (514.56 MHz)	-9.526	0.112	0.12	-7.06	20	-50
	Middle (534.65 MHz)	-10.213	0.095	0.12	-20.66	20	-50
	High (553.92 MHz)	-10.562	0.088	0.12	-26.78	20	-50
DC 4.18 V	Low (514.56 MHz)	-9.969	0.101	0.12	-16.07	20	-50
	Middle (534.65 MHz)	-10.912	0.081	0.12	-32.45	20	-50
	High (553.92 MHz)	-10.689	0.085	0.12	-28.89	20	-50

6. TRANSMITTER SPURIOUS EMISSIONS AND OUT-OF-BAND EMISSIONS

6.1 LIMIT

Limits
Limit of unwanted emission intensity within spurious domain : 4 nW Limit of spurious emission intensity within out-of-band domain : 2.5 uW or less However, for within ± 1 MHz band around center frequency, band of 470 MHz or lower, and band over 710 MHz, it shall be 2.5 uW or less

6.2 TEST PROCEDURES

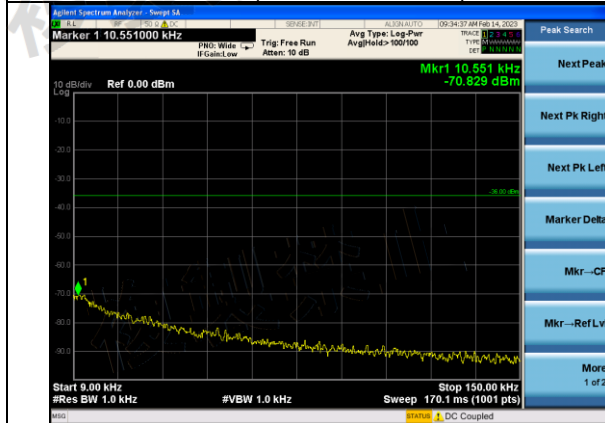
Measurement frequency range acc. to Ordinance Regulation Radio Equipment (2008-04) from 30 MHz to 5 times the carrier frequency, measurement performed in the range 30 MHz to 4 GHz. The EUT was operated in continuous transmit mode (modulated). Cable losses and external attenuators were regarded by the use of a transducer factor.

6.3 TEST RESULT

EUT :	UHF Compact Wireless Microphone System (Transmitter)	Model:	WMicS2 TX2
Temperature:	25°C	Tested by:	Mary Hu
Humidity:	55 % RH	Test Voltage	DC 3.8V(normal)
Operation Mode:	Mode 1/2/3		

Low Tx(514.56 MHz)

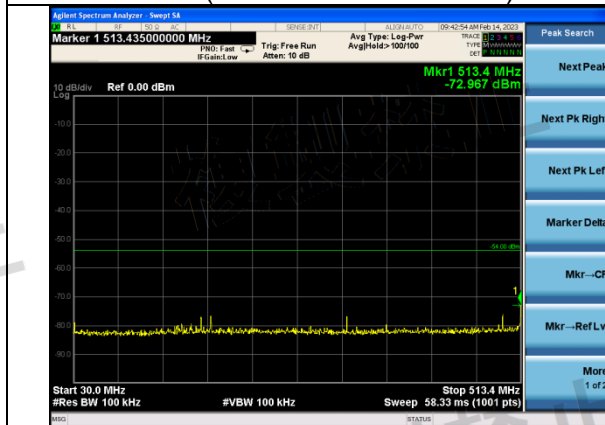
Low (9kHz ~ 150kHz)



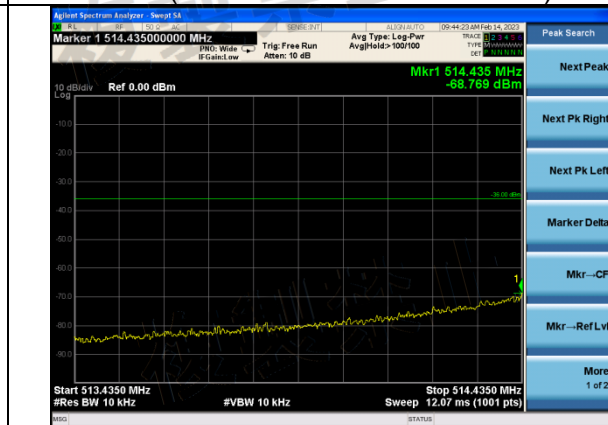
Low (150kHz ~ 30MHz)



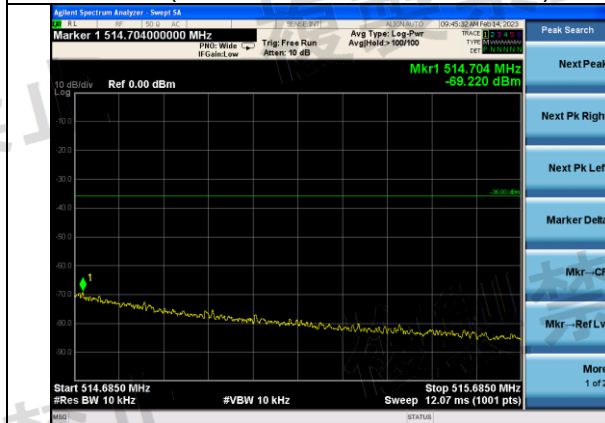
Low (30MHz ~ 513.545MHz)



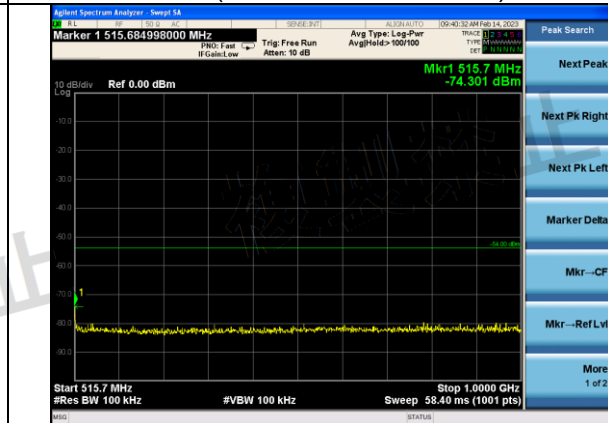
Low (513.545MHz ~ 514.545MHz)



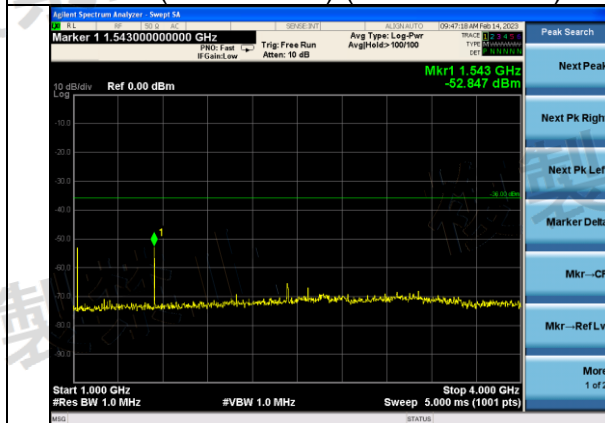
Low (514.685MHz ~ 515.685MHz)



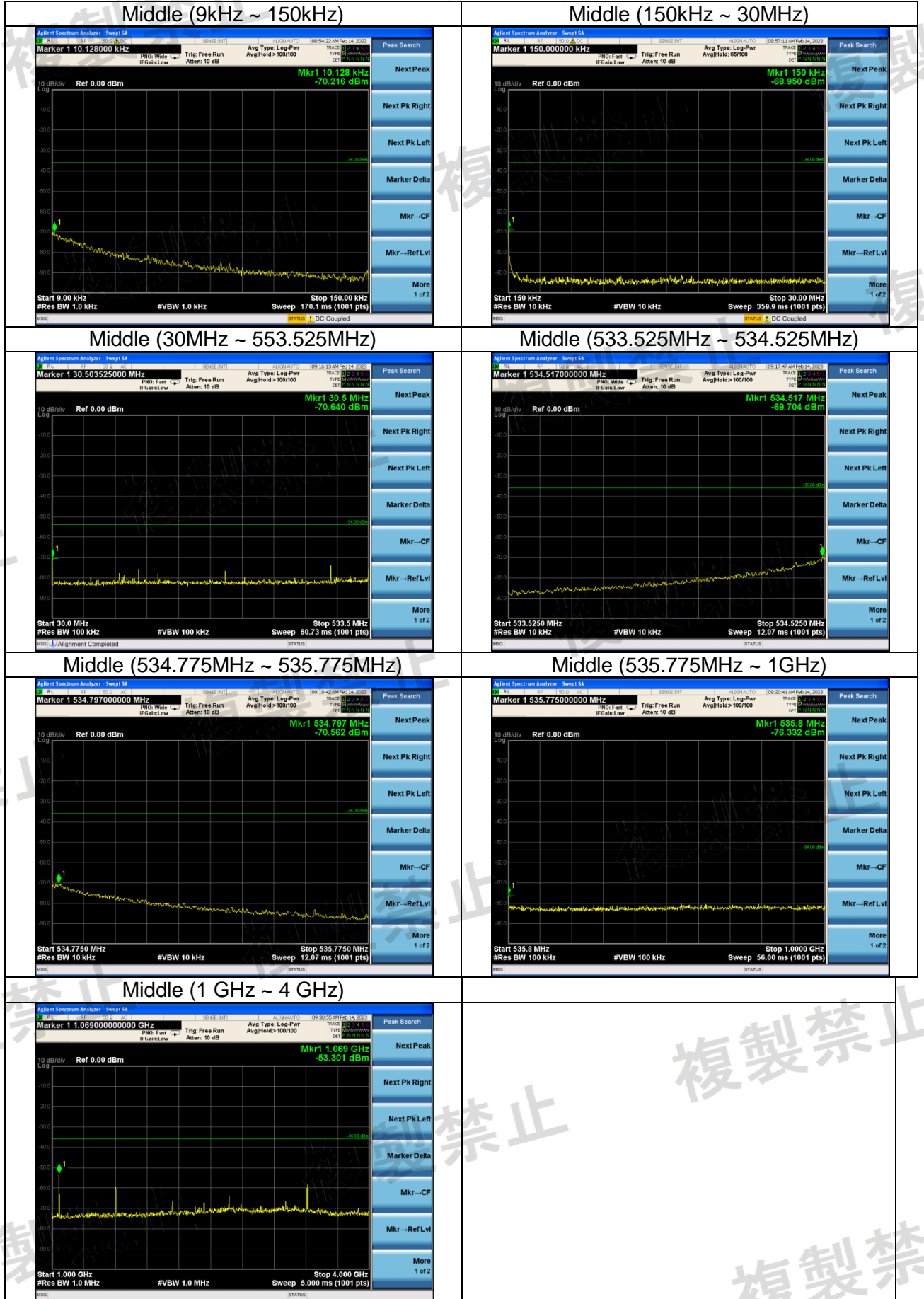
Low (515.685MHz ~ 1GHz)



Low (514.56 MHz) (1 GHz ~ 4 GHz)



Middle Tx(534.65 MHz)



High Tx(553.92 MHz)

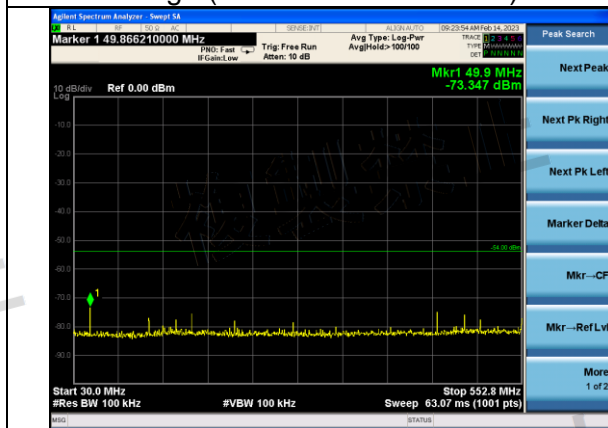
High (9kHz ~ 150kHz)



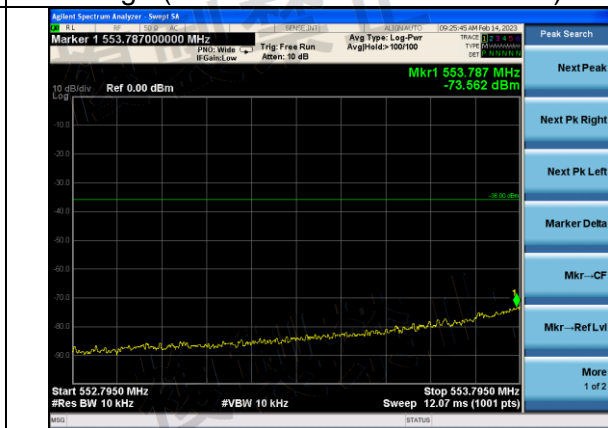
High (150kHz ~ 30MHz)



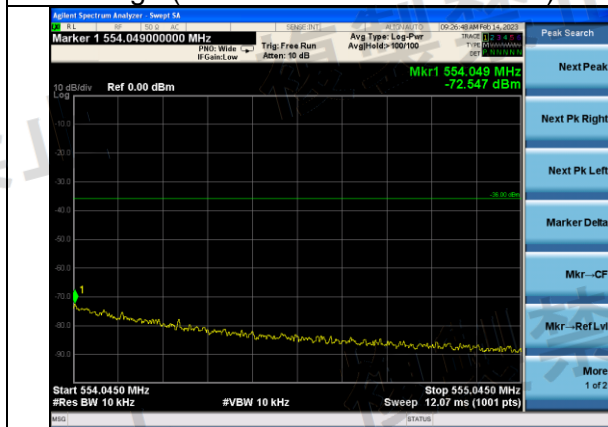
High (30MHz ~ 552.795MHz)



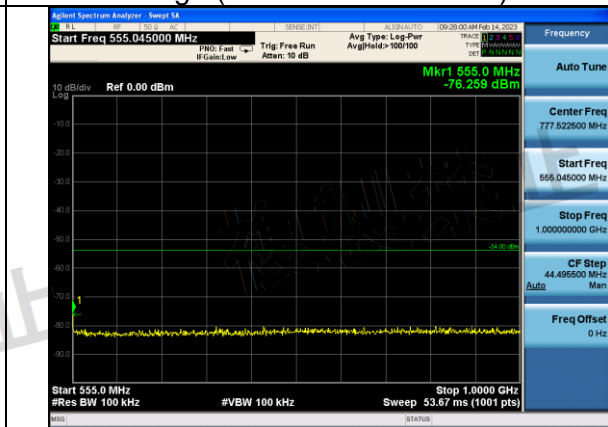
High (552.795 MHz ~ 553.795 MHz)



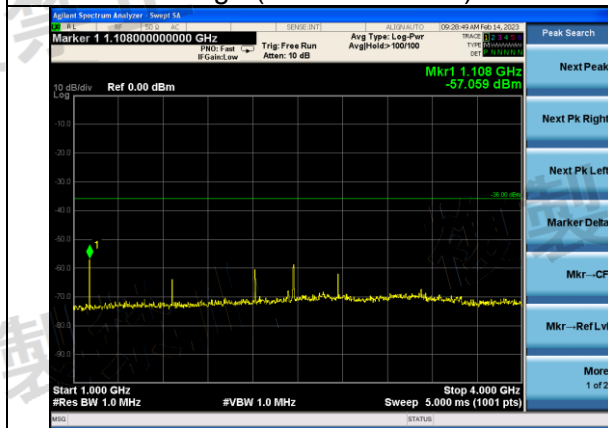
High (554.045MHz ~ 555.045MHz)



High (555.045MHz ~ 1GHz)



High (1 GHz ~ 4 GHz)



7. ADJACENT CHANNEL LEAKAGE POWER

7.1 LIMIT

Limits
(a) For the system with occupied bandwidth within 110 kHz, when voltage impressed 36 dB higher than voltage necessary to modulate ± 5 kHz frequency shift with 1 kHz frequency, the power radiated into the ± 55 kHz band of the frequency 250 kHz distant from the carrier frequency shall be lower than the carrier power by 60 dB or more.
(b) For the system with occupied bandwidth between 110 kHz and 160 kHz, when voltage impressed 36 dB higher than voltage necessary to modulate ± 7.5 kHz band of the frequency shift with 1 kHz frequency, the power radiated into the ± 80 kHz band of the frequency 500 kHz distant from the carrier frequency shall be lower than the carrier power by 60 dB or more.
(c) For the system with occupied bandwidth between 160 kHz and 330 kHz, when voltage impressed 36 dB higher than voltage necessary to modulate ± 2.4 kHz band of the frequency shift with 1 kHz frequency, the power radiated into the ± 165 kHz band of the frequency 500 kHz distant from the carrier frequency shall be lower than the carrier power by 60 dB or more.
(d) In the case of the frequency shift in a stereo transmission method, when voltage impressed 25 dB higher than voltage necessary to modulate ± 28.5 kHz band of the frequency shift with 1 kHz frequency, the power radiated into the ± 125 kHz band of the frequency 500 kHz distant from the carrier frequency shall be lower than the carrier power by 60 dB or more.

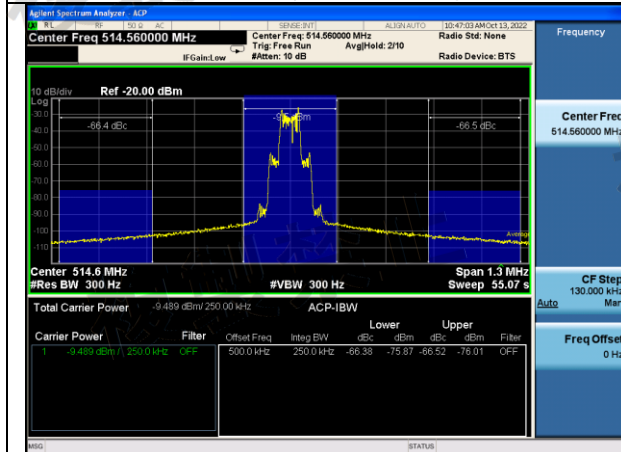
7.2 TEST PROCEDURES

The EUT was operated in continuous transmit mode (modulated).
Cable losses and external attenuators were regarded by the use of a transducer factor.

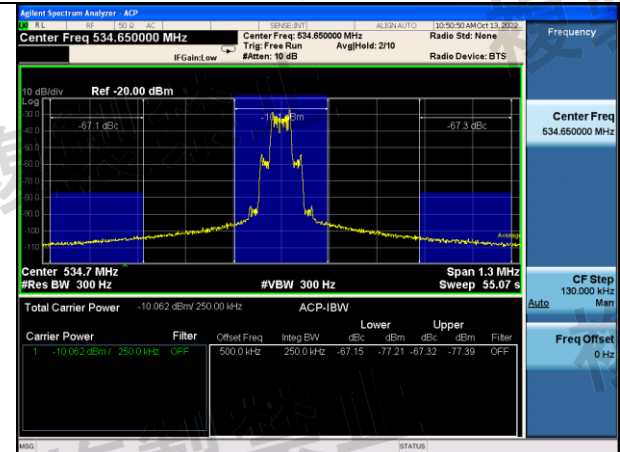
7.3 TEST RESULT

EUT :	UHF Compact Wireless Microphone System (Transmitter)	Model:	WMicS2 TX2
Temperature:	25°C	Tested by:	Mary Hu
Humidity:	55 % RH	Test Voltage	DC 3.8V(normal)
Operation Mode:	Mode 1/2/3		

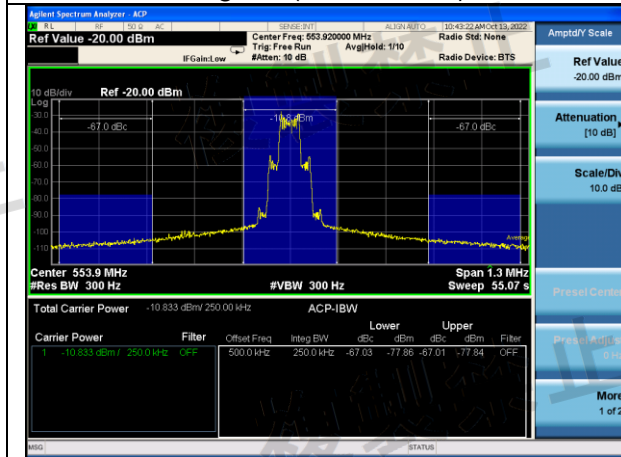
Low Tx(514.56 MHz)



Middle Tx(534.65 MHz)



High Tx(553.92 MHz)



N/A

N/A

8. MAXIMUM FREQUENCY DEVIATION

8.1 LIMIT

Limits
Maximum frequency deviation shall be different values corresponding to each of following different occupied bandwidths.
- 110 kHz or less: within ± 40 kHz
- More than 110 kHz and 160 kHz or less: within ± 60 kHz
- More than 160 kHz and 330 kHz or less: within ± 150 kHz
- For the stereo system: within ± 75 kHz

8.2 TEST PROCEDURES

The EUT was operated in continuous transmit mode (modulated).
Cable losses and external attenuators were regarded by the use of a transducer factor.

8.3 TEST RESULT

EUT :	UHF Compact Wireless Microphone System (Transmitter)	Model:	WMicS2 TX2
Temperature:	25°C	Tested by:	Mary Hu
Humidity:	55 % RH	Test Voltage	DC 3.8V(normal)
Operation Mode:	Mode 1/2/3		

TX Frequency	Voltage	Peak Value	Measured Level (kHz)	Limit (kHz)
Low (514.56 MHz)	DC 3.8V	-	16.94	± 75
		+	16.98	
	DC 3.42V	-	16.82	± 75
		+	16.97	
	DC 4.18V	-	17.15	± 75
		+	17.08	
Middle (534.65 MHz)	DC 3.8V	-	17.08	± 75
		+	16.96	
	DC 3.42V	-	17.06	± 75
		+	16.94	
	DC 4.18V	-	17.12	± 75
		+	17.05	
High (553.92 MHz)	DC 3.8V	-	17.15	± 75
		+	17.08	
	DC 3.42V	-	17.10	± 75
		+	16.98	
	DC 4.18V	-	17.17	± 75
		+	17.10	

REPORT IS FINISHED.