



TESTING LABORATORY
CERTIFICATE # 4821.01



FCC PART 74

TEST REPORT

For

Shenzhen Jiayz photo industrial.,Ltd

A16 Builing,Intelligent Terminal Industrial Park of Sililcon Valley Power, Guanlan,
Longhua District, Shenzhen, China

FCC ID: 2ARN3-BY-WM6S

Report Type: Original Report	Product Type: UHF Wireless Microphone System
Report Number: RSZ200330812-00	
Report Date: 2020-06-23	
Reviewed By: RF Engineer	Jacob Kong 
Prepared By: Bay Area Compliance Laboratories Corp. (Shenzhen) 6/F., West Wing, Third Phase of Wanli Industrial Building, Shihua Road, Futian Free Trade Zone, Shenzhen, Guangdong, China Tel: +86-755-33320018 Fax: +86-755-33320008 www.baclcorp.com.cn	

Note: This report must not be used by the customer to claim product certification, approval, or endorsement by A2LA* or any agency of the Federal Government. This report may contain data that are not covered by the A2LA accreditation and are marked with an asterisk "★".

BACL is not responsible for the authenticity of any test data provided by the applicant. Data included from the applicant that may affect test results are marked with an asterisk '*'. Customer model name, addresses, names, trademarks etc. are not considered data.

This report cannot be reproduced except in full, without prior written approval of the Company. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This report is valid only with a valid digital signature. The digital signature may be available only under the Adobe software above version 7.0.

TABLE OF CONTENTS

GENERAL INFORMATION.....	3
PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT)	3
OBJECTIVE	3
RELATED SUBMITTAL(S)/GRANT(S).....	3
TEST METHODOLOGY	3
MEASUREMENT UNCERTAINTY	4
TEST FACILITY	4
SYSTEM TEST CONFIGURATION.....	5
DESCRIPTION OF TEST CONFIGURATION	5
EUT EXERCISE SOFTWARE	5
SPECIAL ACCESSORIES.....	5
EQUIPMENT MODIFICATIONS	5
SUPPORT EQUIPMENT LIST AND DETAILS	5
BLOCK DIAGRAM OF TEST SETUP	6
SUMMARY OF TEST RESULTS	7
TEST EQUIPMENT LIST	8
FCC§15.247 (i), §1.1307 (b) (1) &§2.1093 – RF EXPOSURE	9
APPLICABLE STANDARD	9
FCC§74.861(e)(1) - RF OUTPUT POWER.....	10
APPLICABLE STANDARD	10
TEST PROCEDURE	10
TEST DATA	10
FCC §74.861(e)(3) - MODULATION CHARACTERISTICS.....	13
APPLICABLE STANDARD	13
TEST PROCEDURE	13
TEST DATA	13
FCC §74.861(e)(5) (7) – OPERATING BANDWIDTH & EMISSION MASK.....	17
APPLICABLE STANDARD	17
TEST PROCEDURE	17
TEST DATA	17
FCC §74.861(e)(7) - SPURIOUS EMISSIONS AT THE ANTENNA PORT	23
APPLICABLE STANDARD	23
TEST PROCEDURE	23
TEST DATA	23
FCC §74.861(e)(7) - FIELD STRENGTH OF SPURIOUS EMISSION	27
APPLICABLE STANDARD	27
TEST PROCEDURE	27
TEST DATA	27
FCC §74.861(e)(4) - FREQUENCY STABILITY.....	29
APPLICABLE STANDARD	29
TEST PROCEDURE	29
TEST DATA	29

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Product	UHF Wireless Microphone System
Tested Model	BY-WM6S
Frequency Range	556.71-575.98MHz
Transmit Power	9.16dbm
Modulation Technique	FM
Antenna Specification	0 dBi
Voltage Range	DC 3.7V from battery or DC 5.0V from USB port
Date of Test	2020-04-04 to 2020-06-16
Sample serial number	RSZ200330812-RF-S2 (Assigned by BACL, Shenzhen)
Received date	2020-03-30
Sample/EUT Status	Good condition

Objective

This test report is prepared on behalf of *Shenzhen Jiayz photo industrial.,Ltd* in accordance with Part 74 Subparts H of the Federal Communication Commissions rules.

The objective is to determine compliance with Part 74 of the Federal Communication Commissions rules, limits for RF output power, Modulation characteristics, Emission bandwidth, Field strength of spurious radiation and Frequency stability.

Related Submittal(s)/Grant(s)

No Related Submittal(s)/Grant(s).

Test Methodology

All measurements contained in this report were conducted in accordance with ANSI/TIA-603-E-2016, fcc KDB 971168 D01 Power Meas License Digital Systems v03r01, and EN 300 442-1 v1.4.2 Elenctromagnetic compatibility and Radio Spectrum Matters; Wireless microphones in the 25MHz to 30GHz frquengcy reange.

All emissions measurement was performed at Bay Area Compliance Laboratories Corp. (Shenzhen).

Measurement Uncertainty

Parameter		Uncertainty
Occupied Channel Bandwidth		±5%
RF Output Power with Power meter		±0.73dB
RF conducted test with spectrum		±1.6dB
Emissions, Radiated	Below 1GHz	±4.0dB
	Above 1GHz	±4.0dB
Temperature		±1 °C
Humidity		±6%
Supply voltages		±0.4%

Note: The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval. Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Shenzhen) to collect test data is located on the 6/F., West Wing, Third Phase of Wanli Industrial Building, Shihua Road, Futian Free Trade Zone, Shenzhen, Guangdong, China.

The test site has been approved by the FCC under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No. : 342867, the FCC Designation No. : CN1221.

The test site has been registered with ISED Canada under ISED Canada Registration Number 3062B.

SYSTEM TEST CONFIGURATION

Description of Test Configuration

The system was configured for testing in a normal mode.

Total 48 channels start at the lowest frequency 556.71MHz, to the highest frequency 575.98MHz, with a 410kHz channel spacing.

CH1: 556.71MHz, CH24 566.14MHz, CH48: 575.98MHz was select to test.

EUT Exercise Software

No exercise software was used.

Special Accessories

No special accessory was used.

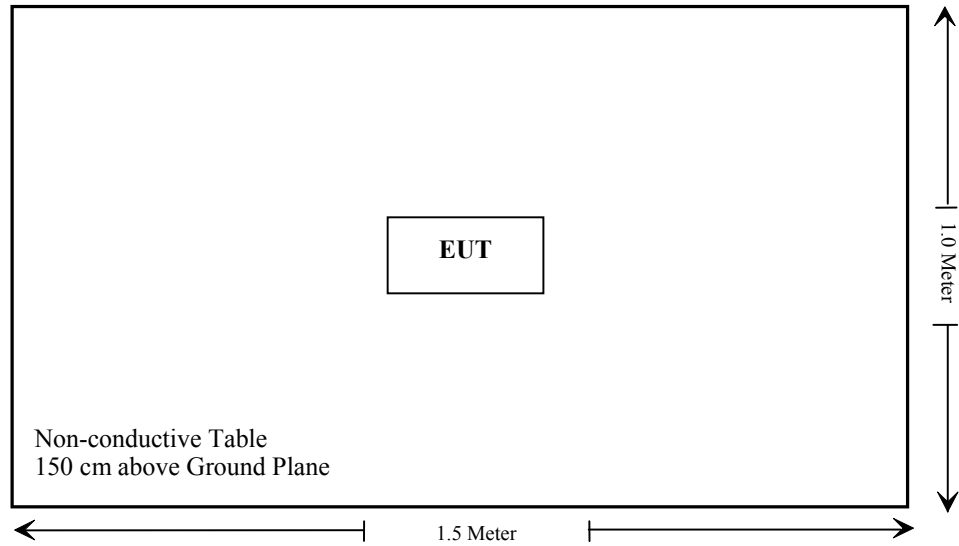
Equipment Modifications

No modification was made to the EUT tested.

Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
/	/	/	/

Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Results
§2.1093	RF Exposure	Compliance
§ 74.861(e)(1)	RF Output Power	Compliance
§ 74.861(e)(3)	Modulation Characteristics	Compliance
§ 74.861(e)(5)(7)	Operating bandwidth & Emission mask	Compliance
§ 74.861(e)(7)	Spurious Emission at Antenna Port	Compliance
§ 74.861(e)(7)	Field strength of spurious emission	Compliance
§ 74.861(e)(4)	Frequency Stability	Compliance

TEST EQUIPMENT LIST

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Radiated Emission Test					
R&S	EMI Test Receiver	ESR3	102455	2019/7/9	2020/7/8
Sonoma instrument	Pre-amplifier	310 N	186238	2019/4/20	2020/4/20
Sonoma instrument	Pre-amplifier	310 N	186238	2020/4/20	2021/4/20
Sunol Sciences	Broadband Antenna	JB1	A040904-1	2017/12/22	2020/12/21
COM-POWER	Dipole Antenna	AD-100	721027	NCR	NCR
Unknow	Cable	Chamber Cable 1	F-03-EM236	2019/11/29	2020/11/28
Unknow	Cable	Chamber Cable 4	EC-007	2019/11/29	2020/11/28
Rohde & Schwarz	Spectrum Analyzer	FSV40-N	102259	2019/7/22	2020/7/21
Sunol Sciences	Horn Antenna	DRH-118	A052604	2017/12/22	2020/12/21
A.H.System	Horn Antenna	SAS-200/571	135	2018/9/1	2021/8/31
Insulted Wire Inc.	RF Cable	SPS-2503-3150	02222010	2019/11/29	2020/11/28
Unknow	RF Cable	W1101-EQ1 OUT	F-19-EM005	2019/11/29	2020/11/28
Agilent	Signal Generator	N5183A	MY51040755	2019/12/4	2020/12/4
RF Conducted Test					
Unknown	RF Cable	Unknown	DLO J5/W6102	2019/11/29	2020/11/28
Unknown	RF Cable	Unknown	8082176/W6111	2019/11/29	2020/11/28
Rohde & Schwarz	SPECTRUM ANALYZER	FSU26	200120	2020/3/2	2021/3/1
Weinschel	Power divider	1515	MY628	2019/11/29	2020/11/28
HP Agilent	RF Communication test set	8920B	3325U00859	2020/1/15	2021/1/15
Unknown	30dB Attenuator	50FH-030-100 RF	1.7000672E11	2019/11/29	2020/11/28
Unknown	High Pass filter	NHP-600+	F-03-EM131	2019/11/29	2020/11/28

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

FCC§15.247 (i), §1.1307 (b) (1) &§2.1093 – RF EXPOSURE

Applicable Standard

According to FCC §2.1093 and §1.1307(b) (1), systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

According to KDB 447498 D01 General RF Exposure Guidance

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$ for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where

1. $f(\text{GHz})$ is the RF channel transmit frequency in GHz.
2. Power and distance are rounded to the nearest mW and mm before calculation.
3. The result is rounded to one decimal place for comparison.
4. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test Exclusion.

For worst case:

Frequency (MHz)	Maximum Tune-up power		Calculated Distance (mm)	Calculated Value	Threshold (1-g SAR)	SAR Test Exclusion
	(dBm)	(mW)				
575.98	10	10	5	1.5	3.0	Yes

Result: No Standalone SAR test is required

FCC § 74.861(e)(1) - RF OUTPUT POWER**Applicable Standard**

According to FCC§74.861(e)(1): The power may not exceed the following values.

- (i) 54-72, 76-88, and 174-216 MHz bands: 50 mW EIRP
- (ii) 470-608 and 614-698: 250 mW conducted power
- (iii) 600 MHz duplex gap: 20 mW EIRP

Test Procedure

KDB 971168 D01 v03r01

Test Data**Environmental Conditions**

Temperature:	25 °C
Relative Humidity:	58 %
ATM Pressure:	101.0 kPa

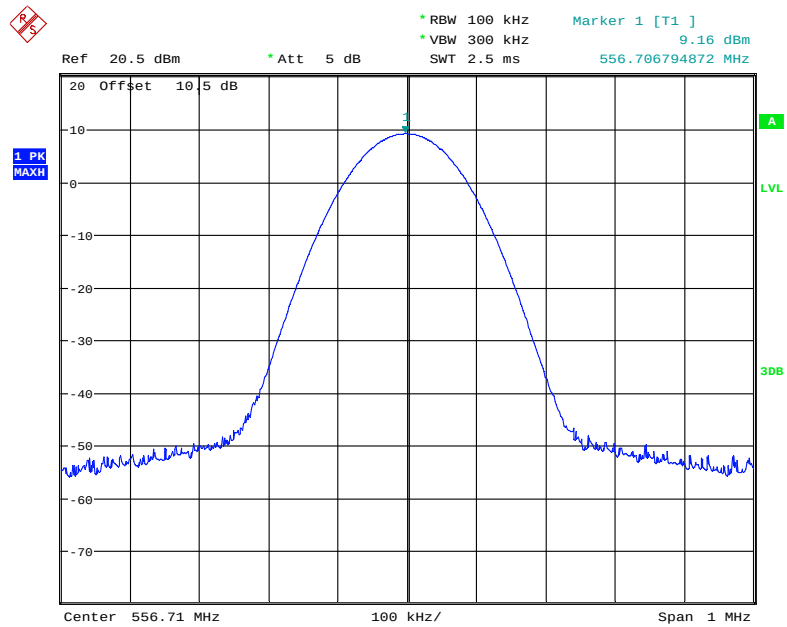
The testing was performed by Gavin Guo on 2020-06-16.

Test Mode: Transmitting

Test Result: Compliance.

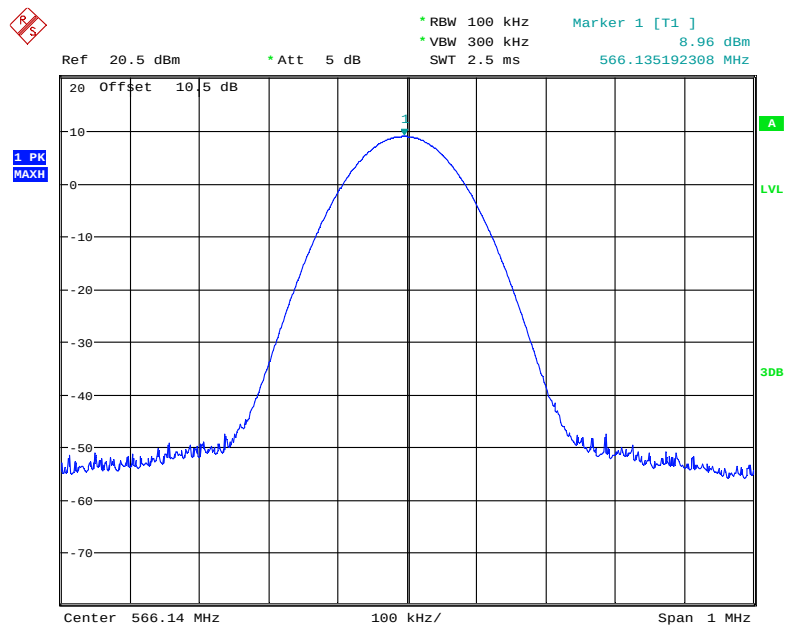
Frequency (MHz)	Output power (dBm)	Output power (mW)	Limit (mW)
556.71	9.16	8.24	250
566.14	8.96	7.87	250
575.98	8.62	7.28	250

Low Channel



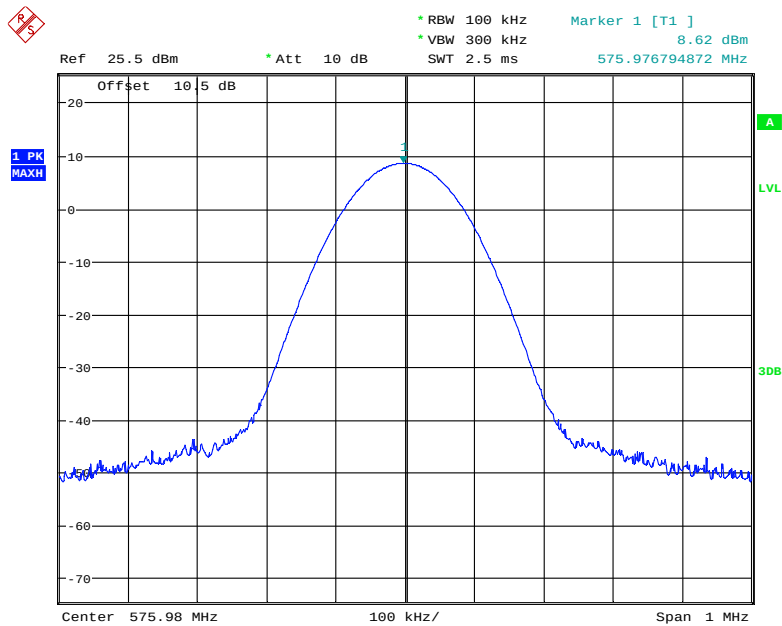
Date: 16.JUN.2020 16:01:22

Middle Channel



Date: 16.JUN.2020 16:06:33

High Channel



Date: 16.JUN.2020 15:55:14

FCC § 74.861(e)(3) - MODULATION CHARACTERISTICS

Applicable Standard

According to FCC§74.861(e)(3): Any form of modulation may be used. A maximum deviation of ± 75 kHz is permitted when frequency modulation is employed.

Test Procedure

Test Method: TIA/EIA-603-E

Test Data

Environmental Conditions

Temperature:	25 °C
Relative Humidity:	52 %
ATM Pressure:	101.0 kPa

The testing was performed by Gavin Guo on 2020-06-16.

Note: Manufacture declared the rated system deviation is 40 kHz.

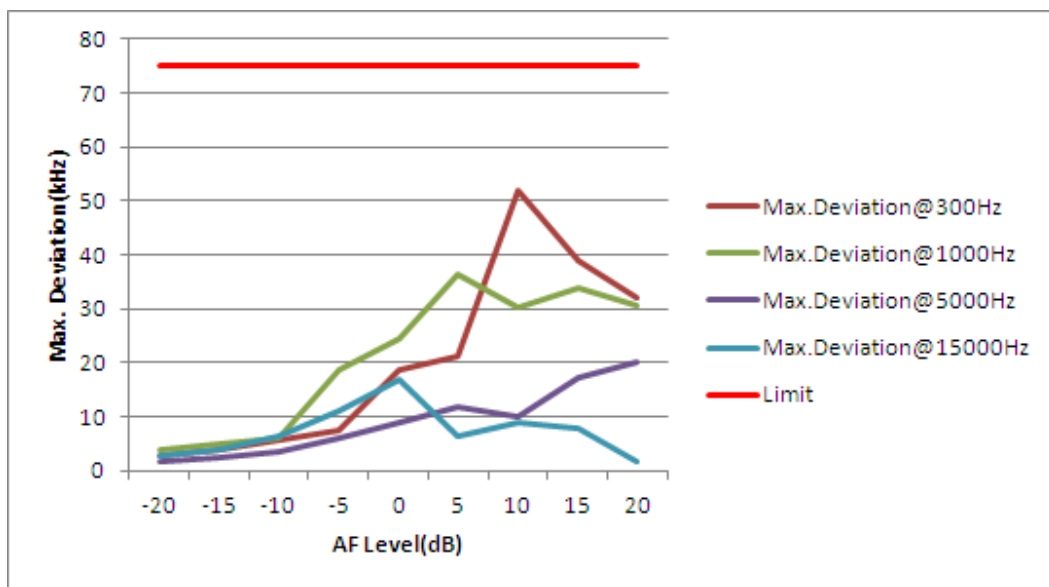
Please refer to the following tables and plots.

MODULATION LIMITING

Frequency: 556.14 MHz

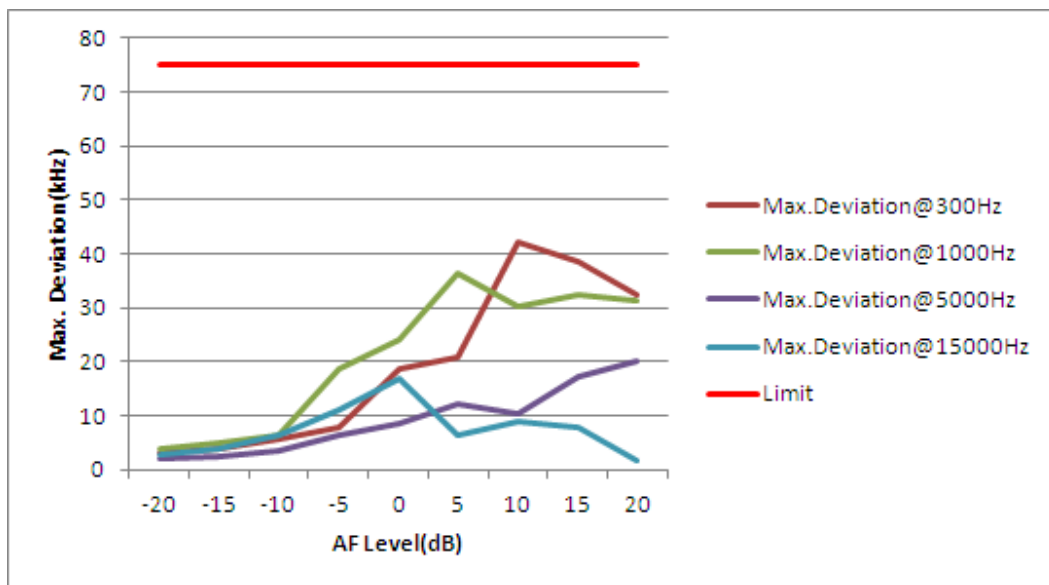
Positive

AF Level (dB)	AF Frequency(Hz)/Max. Deviation(kHz)				Limit [kHz]
	300	1000	5000	1500	
-20	2.877	3.911	1.802	2.967	75
-15	4.086	5.073	2.468	4.028	75
-10	5.762	6.152	3.400	6.503	75
-5	7.647	18.71	6.115	11.12	75
0	18.69	24.32	8.808	16.95	75
5	21.23	36.47	12.03	6.543	75
10	51.89	30.37	10.13	8.876	75
15	39.05	33.73	17.33	8.036	75
20	32.24	30.53	20.15	1.881	75



Negative

AF Level (dB)	AF Frequency(Hz)/Max. Deviation(kHz)				Limit [kHz]
	300	1000	5000	1500	
-20	2.877	3.911	1.802	2.967	75
-15	4.086	5.073	2.468	4.028	75
-10	5.762	6.152	3.400	6.503	75
-5	7.647	18.71	6.115	11.12	75
0	18.69	24.32	8.808	16.95	75
5	21.23	36.47	12.03	6.543	75
10	51.89	30.37	10.13	8.876	75
15	39.05	33.73	17.33	8.036	75
20	32.24	30.53	20.15	1.881	75

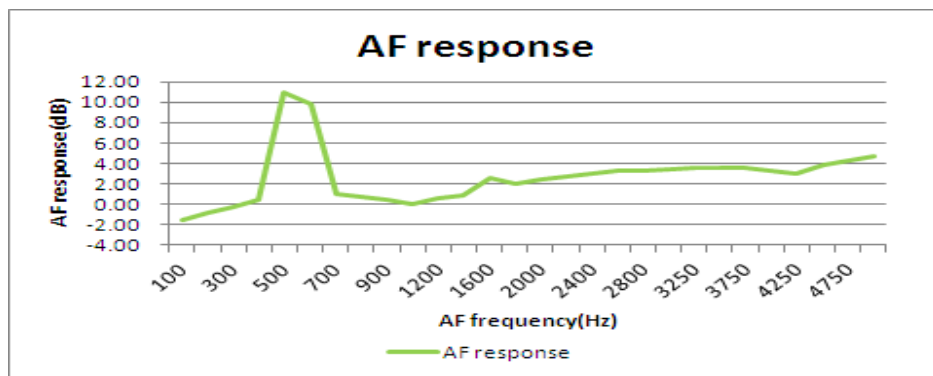


Audio Frequency Response

Frequency: 556.14 MHz

Audio Frequency (Hz)	Frequency Deviation (kHz)	AF response (dB)
100	6.705	-1.56
200	7.312	-0.81
300	7.838	-0.21
400	8.432	0.43
500	28.53	11.02
600	24.73	9.77
700	9.08	1.07
800	8.751	0.75
900	8.402	0.40
1000	8.026	0.00
1200	8.533	0.53
1400	8.934	0.93
1600	10.86	2.63
1800	10.16	2.05
2000	10.58	2.40
2200	11.02	2.75
2400	11.35	3.01
2600	11.63	3.22
2800	11.81	3.36
3000	11.83	3.37
3250	12.09	3.56
3500	12.12	3.58
3750	12.04	3.52
4000	11.71	3.28
4250	11.41	3.06
4500	12.61	3.92
4750	13.14	4.28
5000	13.74	4.67

Note: AF response=20*log(Frequency Deviation/Frequency Deviation@1kHz)



FCC § 74.861(e)(5) (7) – OPERATING BANDWIDTH & EMISSION MASK

Applicable Standard

According to FCC§74.861(e)(5)(7):

The operating bandwidth shall not exceed 200 kHz.

Analog emissions within the band from one megahertz below to one megahertz above the carrier frequency shall comply with the emission mask in section 8.3.1.2 of the European Telecommunications Institute Standard ETSI EN 300 422-1 v1.4.2 (2011-08), Electromagnetic compatibility and Radio spectrum Matters (ERM); Wireless microphones in the 25 MHz to 3 GHz frequency range; part 1: Technical characteristics and methods of measurement. Digital emissions within the band from one megahertz below to one megahertz above the carrier frequency shall comply with the emission mask in section 8.3.2.2 (Figure 4) of the European Telecommunications Institute Standard ETSI EN 300 422-1 v1.4.2 (2011-08), Electromagnetic compatibility and Radio spectrum Matters (ERM); Wireless microphones in the 25 MHz to 3 GHz frequency range; part 1: Technical characteristics and methods of measurement. Beyond one megahertz below and above the carrier frequency, emissions shall comply with the limits specified in section 8.4 of ETSI EN 300 422-1 v1.4.2 (2011-08). The requirements of this paragraph (e)(7) shall not apply to applications for certification of equipment in these bands until nine months after release of the Commission's Channel Reassignment Public Notice, as defined in §73.3700(a)(2) of this chapter.

Test Procedure

The OBW is according to KDB 971168 D01 v03r01.

The Emission mask is according to sections 8.3 of ENSI EN 300 422-1 V1.4.2 (2011-08).

Test Data

Environmental Conditions

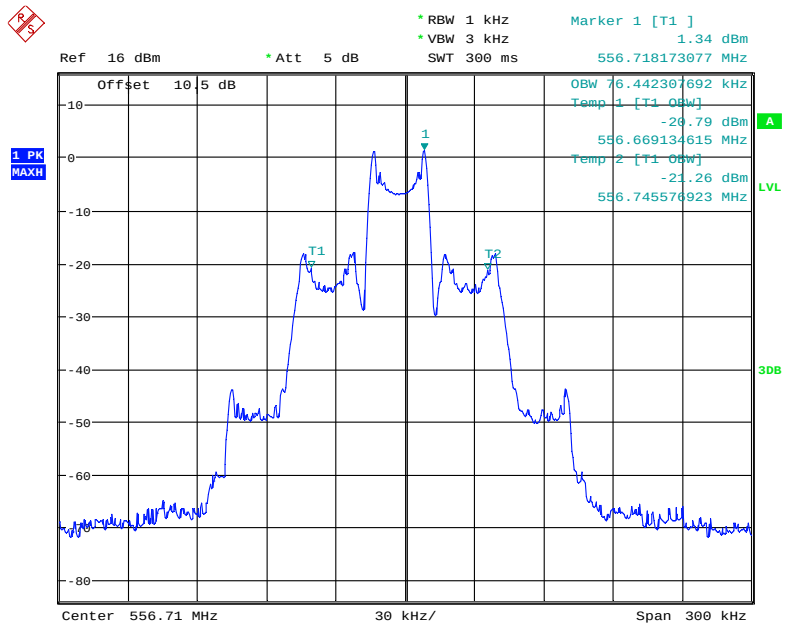
Temperature:	25 °C
Relative Humidity:	58 %
ATM Pressure:	101.0 kPa

The testing was performed by Gavin Guo on 2020-06-16.

Test mode: transmitting

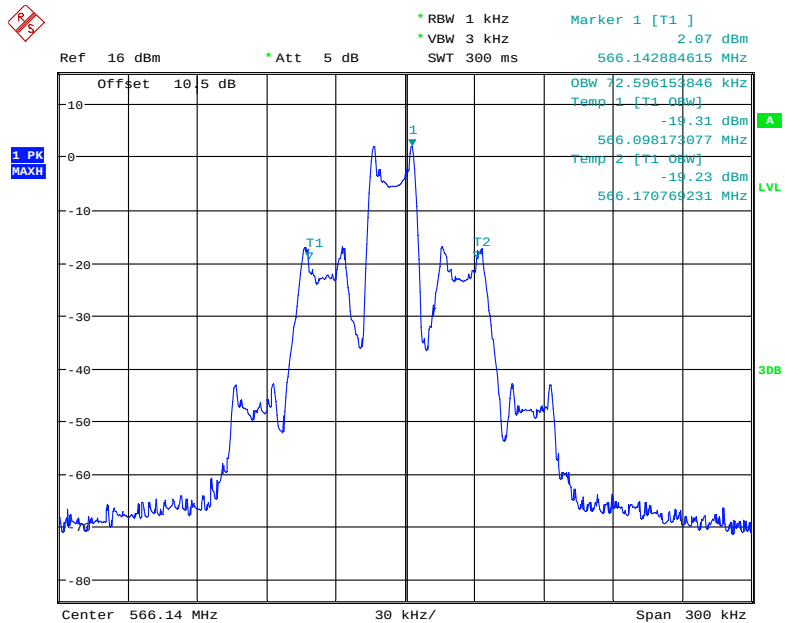
Frequency (MHz)	Emission bandwidth (kHz)	Limit (kHz)
556.71	76.44	200
566.14	72.60	200
575.98	75.96	200

Emission bandwidth, Low Channel



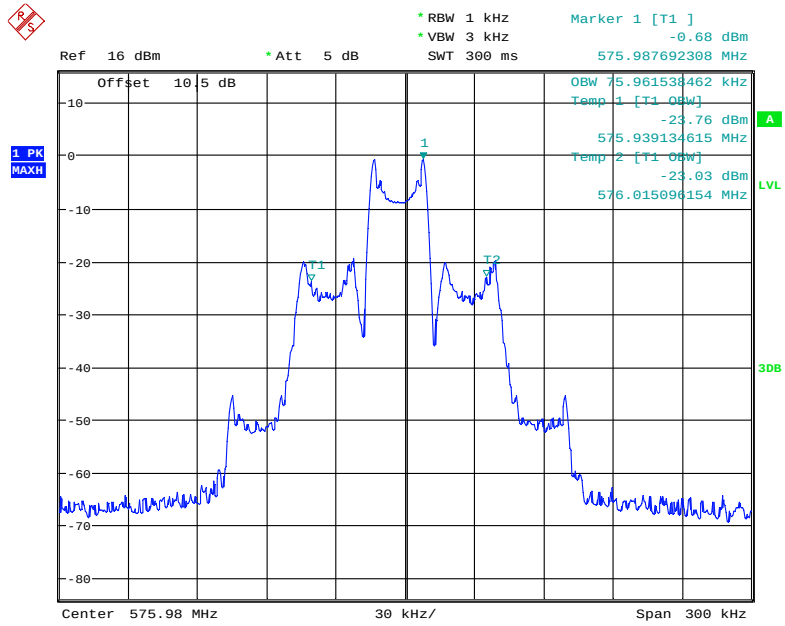
Date: 16.JUN.2020 16:26:02

Emission bandwidth, Middle Channel



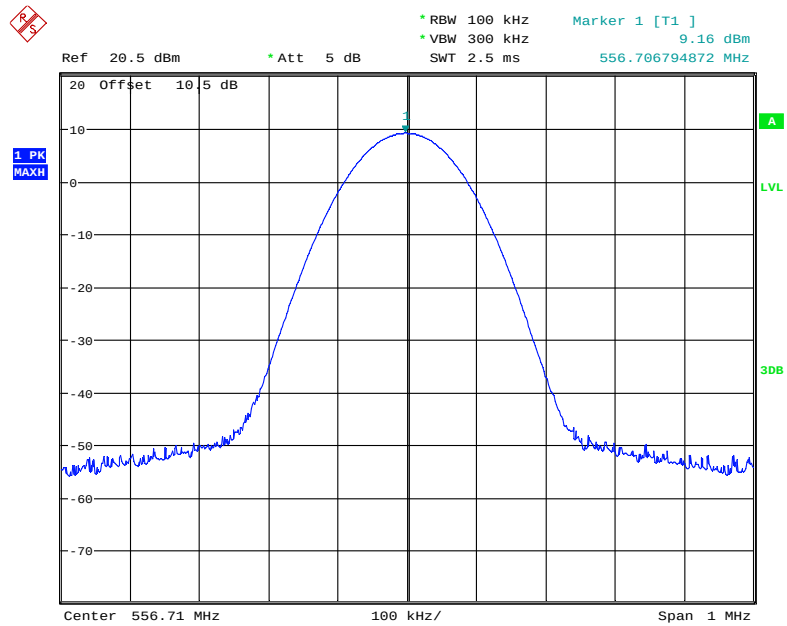
Date: 16.JUN.2020 16:24:22

Emission bandwidth, High Channel

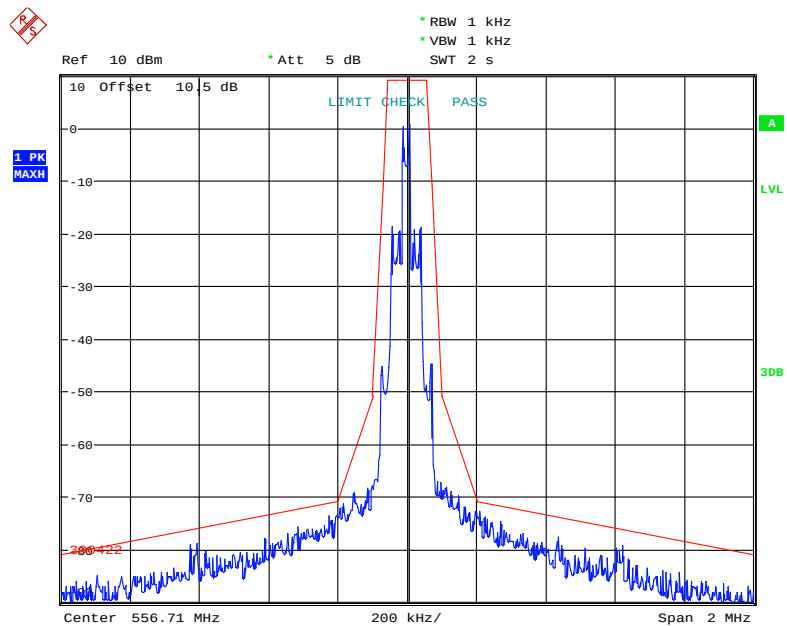


Date: 16.JUN.2020 16:26:58

Emission Mask, Low Channel

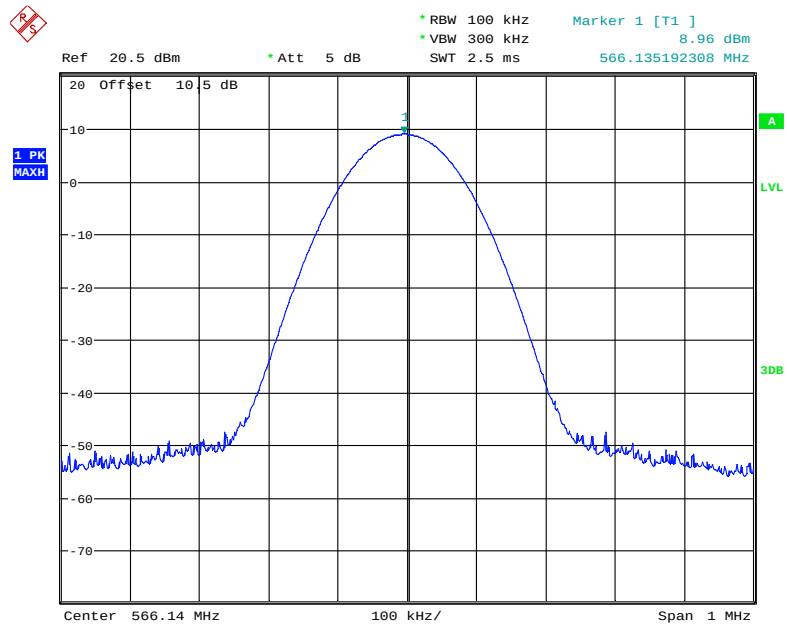


Date: 16.JUN.2020 16:01:22

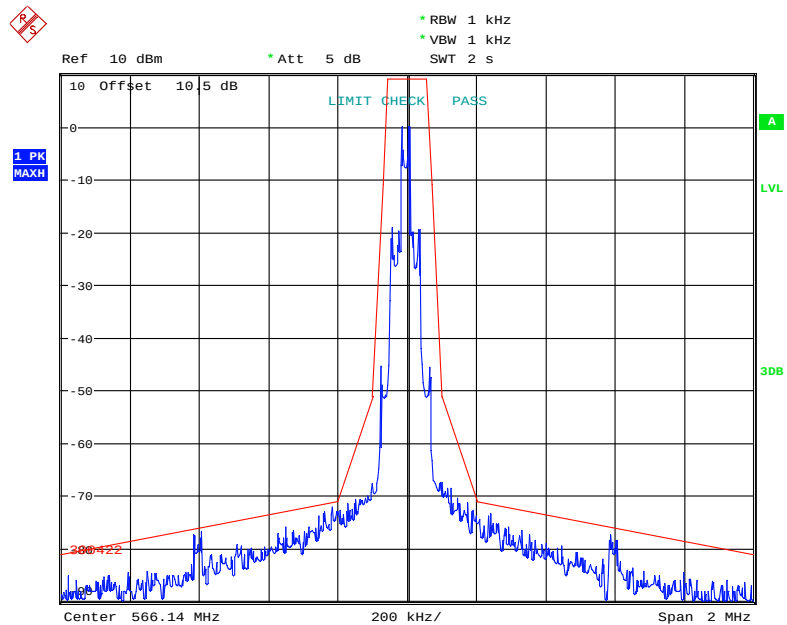


Date: 16.JUN.2020 16:04:35

Emission Mask, Middle Channel

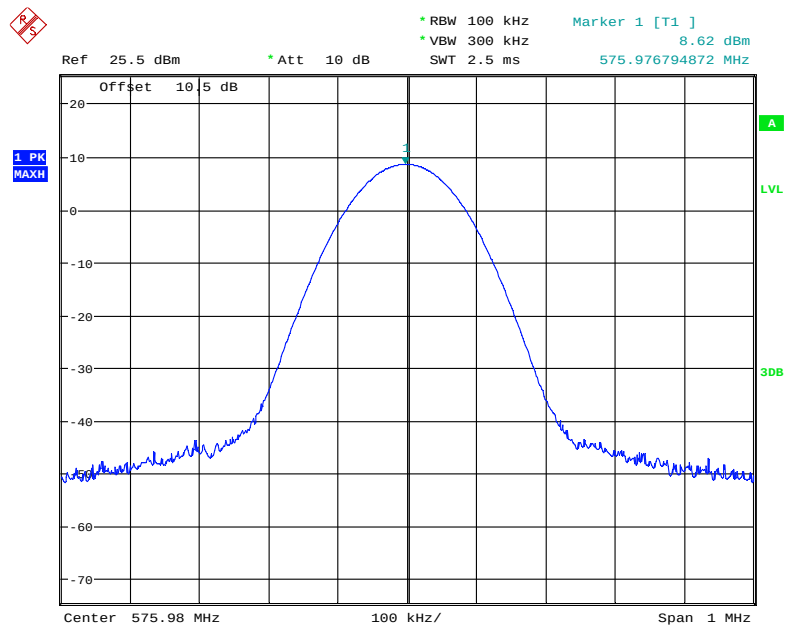


Date: 16.JUN.2020 16:06:33

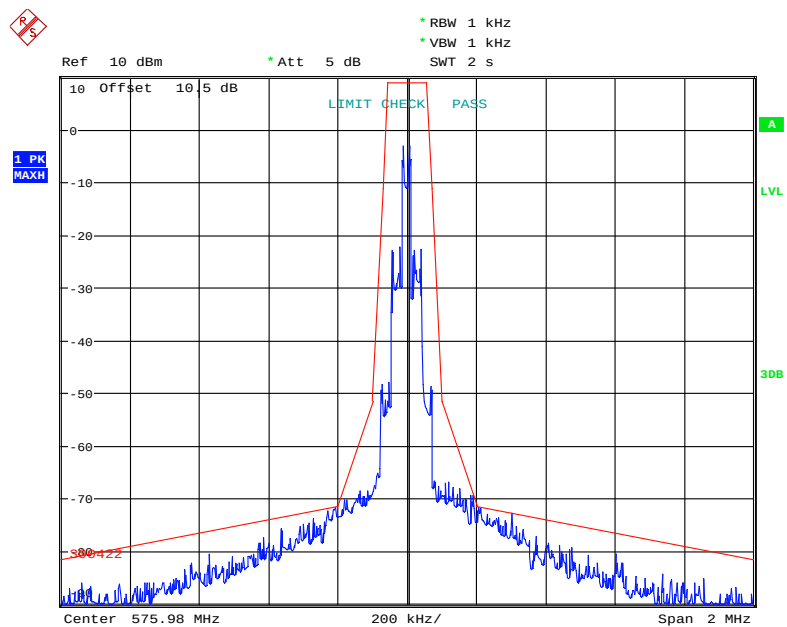


Date: 16.JUN.2020 16:15:09

Emission Mask, High Channel



Date: 16.JUN.2020 15:55:14



Date: 16.JUN.2020 15:59:15

FCC § 74.861(e)(7) - SPURIOUS EMISSIONS AT THE ANTENNA PORT**Applicable Standard**

According to FCC §74.861(e)(7):

Analog emissions within the band from one megahertz below to one megahertz above the carrier frequency shall comply with the emission mask in section 8.3.1.2 of the European Telecommunications Institute Standard ETSI EN 300 422-1 v1.4.2 (2011-08), Electromagnetic compatibility and Radio spectrum Matters (ERM); Wireless microphones in the 25 MHz to 3 GHz frequency range; part 1: Technical characteristics and methods of measurement. Digital emissions within the band from one megahertz below to one megahertz above the carrier frequency shall comply with the emission mask in section 8.3.2.2 (Figure 4) of the European Telecommunications Institute Standard ETSI EN 300 422-1 v1.4.2 (2011-08), Electromagnetic compatibility and Radio spectrum Matters (ERM); Wireless microphones in the 25 MHz to 3 GHz frequency range; part 1: Technical characteristics and methods of measurement. Beyond one megahertz below and above the carrier frequency, emissions shall comply with the limits specified in section 8.4 of ETSI EN 300 422-1 v1.4.2 (2011-08). The requirements of this paragraph (e)(7) shall not apply to applications for certification of equipment in these bands until nine months after release of the Commission's Channel Reassignment Public Notice, as defined in §73.3700(a)(2) of this chapter.

Test Procedure

KDB 971168 D01 v03r01 and ETSI EN 300 422-1 v1.4.2 (2011-08).

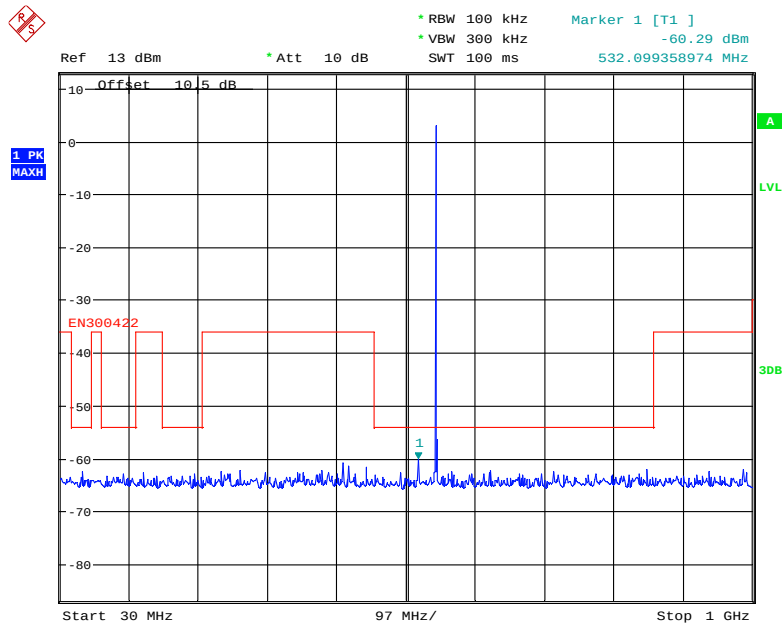
Test Data**Environmental Conditions**

Temperature:	25 °C
Relative Humidity:	52 %
ATM Pressure:	101.0 kPa

The testing was performed by Gavin Guo on 2020-06-16.

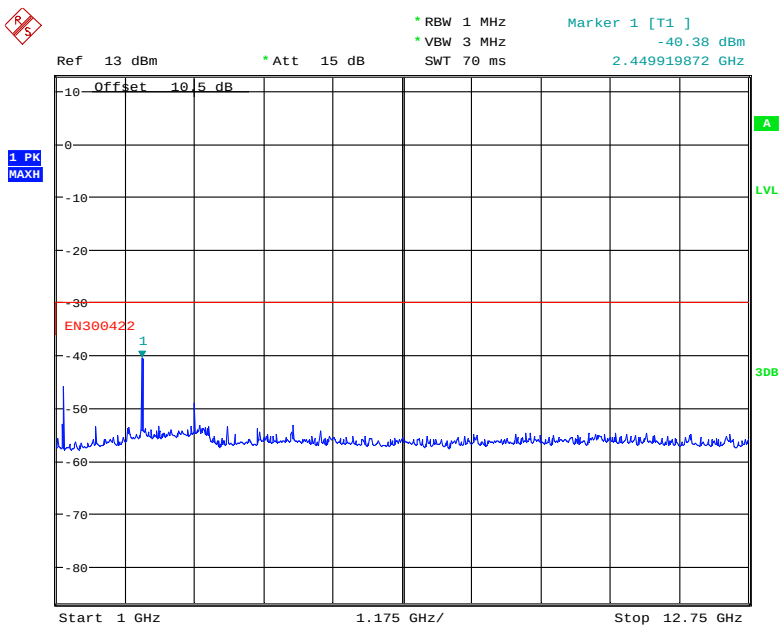
Test Mode: Transmitting

30MHz – 1 GHz, 556.71MHz



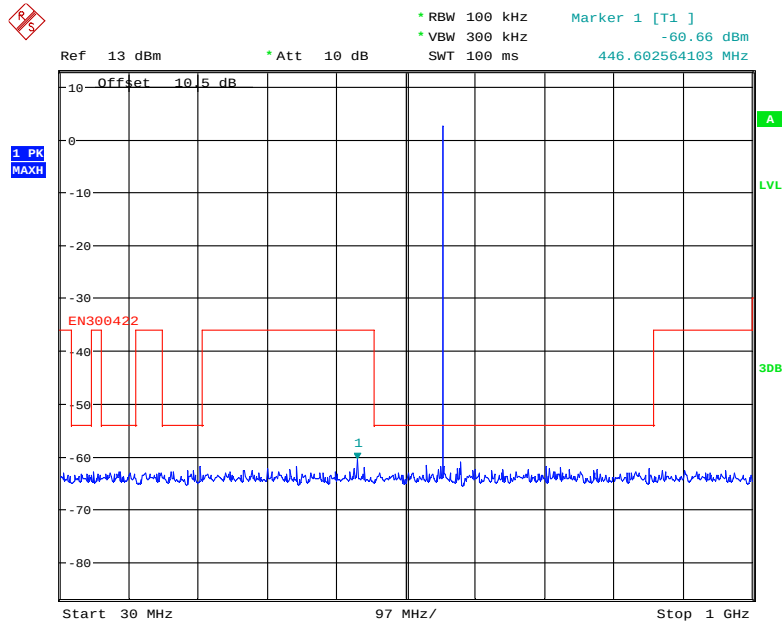
Date: 16.JUN.2020 16:33:15

1 GHz – 12.75 GHz, 556.71MHz



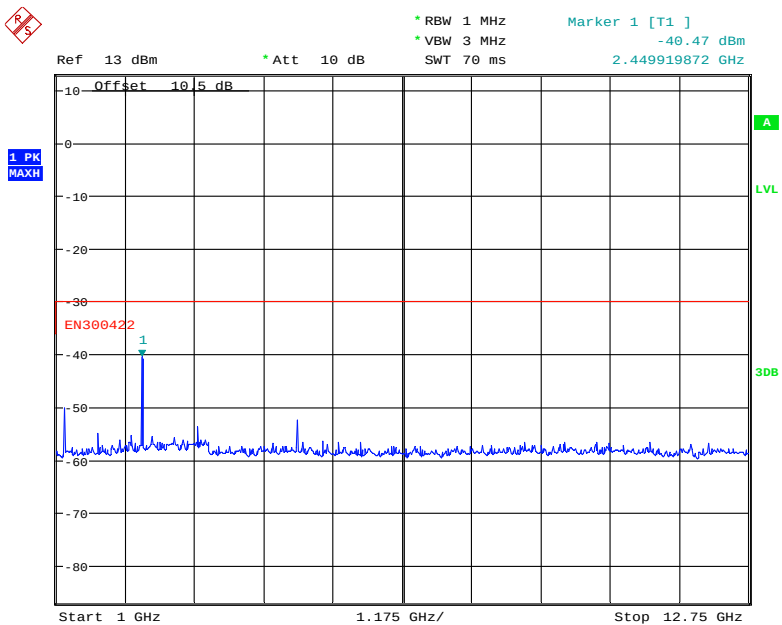
Date: 16.JUN.2020 16:32:47

30MHz – 1 GHz, 566.14MHz



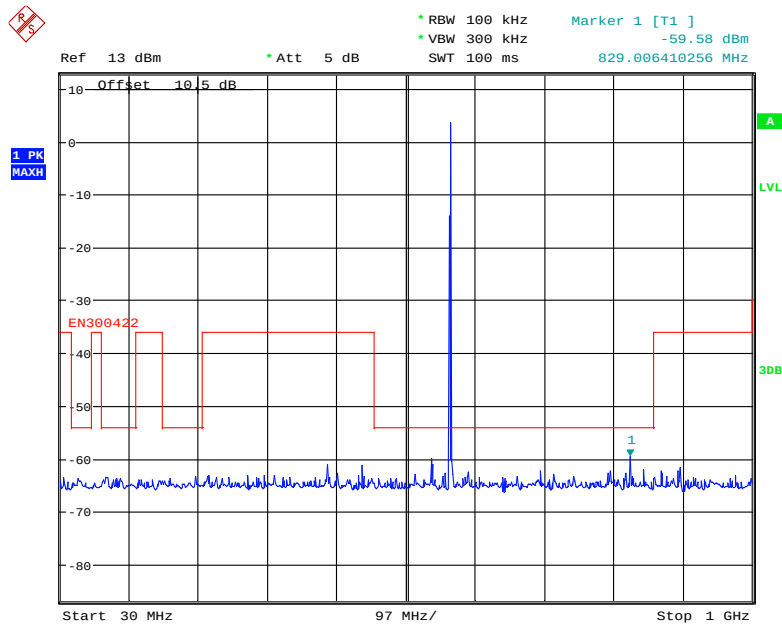
Date: 16.JUN.2020 16:33:44

1 GHz – 12.75 GHz, 566.14MHz



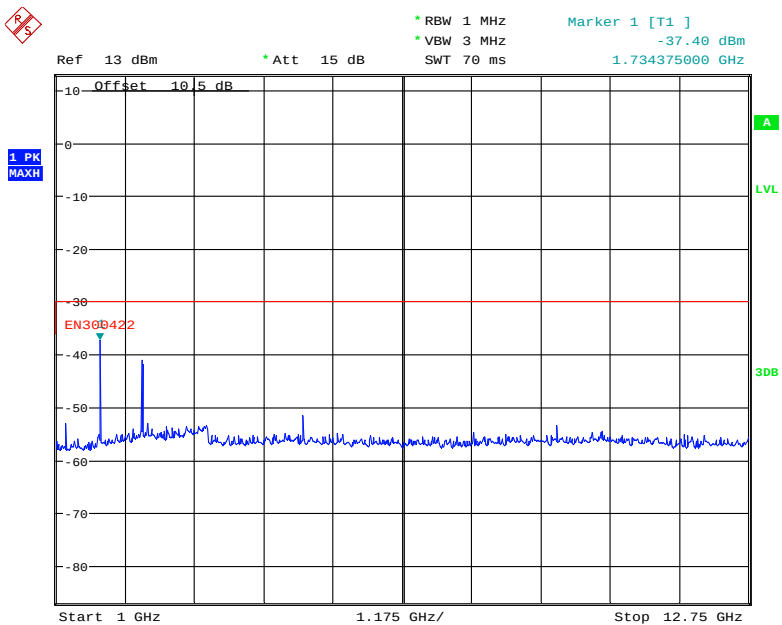
Date: 16.JUN.2020 16:34:13

30MHz – 1 GHz, 575.98MHz



Date: 16.JUN.2020 16:31:06

1 GHz – 12.75 GHz, 575.98MHz



Date: 16.JUN.2020 16:32:24

FCC § 74.861(e)(7) - FIELD STRENGTH OF SPURIOUS EMISSION**Applicable Standard**

According to FCC §74.861(e)(7):

Analog emissions within the band from one megahertz below to one megahertz above the carrier frequency shall comply with the emission mask in section 8.3.1.2 of the European Telecommunications Institute Standard ETSI EN 300 422-1 v1.4.2 (2011-08), Electromagnetic compatibility and Radio spectrum Matters (ERM); Wireless microphones in the 25 MHz to 3 GHz frequency range; part 1: Technical characteristics and methods of measurement. Digital emissions within the band from one megahertz below to one megahertz above the carrier frequency shall comply with the emission mask in section 8.3.2.2 (Figure 4) of the European Telecommunications Institute Standard ETSI EN 300 422-1 v1.4.2 (2011-08), Electromagnetic compatibility and Radio spectrum Matters (ERM); Wireless microphones in the 25 MHz to 3 GHz frequency range; part 1: Technical characteristics and methods of measurement. Beyond one megahertz below and above the carrier frequency, emissions shall comply with the limits specified in section 8.4 of ETSI EN 300 422-1 v1.4.2 (2011-08). The requirements of this paragraph (e)(7) shall not apply to applications for certification of equipment in these bands until nine months after release of the Commission's Channel Reassignment Public Notice, as defined in §73.3700(a)(2) of this chapter.

Test Procedure

KDB 971168 D01 v03r01 and ETSI EN 300 422-1 v1.4.2 (2011-08).

Test Data**Environmental Conditions**

Temperature:	25~26 °C
Relative Humidity:	52~56 %
ATM Pressure:	101.0 kPa

The testing was performed by Zero Yan and Leo Huang from 2020-04-04 to 2020-04-22

Test Mode: Transmitting

Frequency (MHz)	Receiver Reading (dBμV)	Turn Table Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (m)	Polar (H/V)	Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
Low Channel(556.710 MHz)										
933.30	37.78	130	2.4	H	-62.8	1.37	0.0	-64.17	-36	28.17
532.08	32.45	105	2.2	V	-66.7	1.08	0.0	-67.78	-54	13.78
1113.42	67.59	354	1.1	H	-41.1	1.60	6.20	-36.50	-30	6.50
1113.42	74.41	164	2.0	V	-35.2	1.60	6.20	-30.60	-30	0.60
1670.13	59.73	53	1.3	H	-47.0	1.30	8.90	-39.40	-30	9.40
1670.13	62.36	264	2.2	V	-43.8	1.30	8.90	-36.20	-30	6.20
4453.68	55.68	121	1.7	H	-46.2	1.50	12.10	-35.60	-30	5.60
4453.68	58.00	310	1.5	V	-43.2	1.50	12.10	-32.60	-30	2.60
Middle Channel(566.140 MHz)										
957.20	37.24	14	1.9	H	-63.4	1.37	0.0	-64.77	-36	28.77
542.16	32.75	341	2.3	V	-66.4	1.08	0.0	-67.48	-54	13.48
1132.28	64.66	293	1.7	H	-44.1	1.60	6.20	-39.50	-30	9.50
1132.28	73.84	300	1.3	V	-35.7	1.60	6.20	-31.10	-30	1.10
1698.42	56.30	194	1.6	H	-50.4	1.30	8.90	-42.80	-30	12.80
1698.42	60.52	265	1.5	V	-45.6	1.30	8.90	-38.00	-30	8.00
4529.12	55.38	24	1.6	H	-46.5	1.50	12.10	-35.90	-30	5.90
4529.12	60.20	176	1.4	V	-41.0	1.50	12.10	-30.40	-30	0.40
High Channel(575.980MHz)										
958.69	37.69	186	2.1	H	-62.9	1.37	0.0	-64.27	-36	28.27
572.91	36.47	324	1.3	V	-62.7	1.08	0.0	-63.78	-54	9.78
1151.96	63.71	23	2.4	H	-44.3	1.50	6.80	-39.00	-30	9.00
1151.96	72.13	29	2.3	V	-35.6	1.50	6.80	-30.30	-30	0.30
1727.94	55.91	356	1.2	H	-50.8	1.30	8.90	-43.20	-30	13.20
1727.94	60.18	353	2.3	V	-46.0	1.30	8.90	-38.40	-30	8.40
4607.84	56.78	228	1.2	H	-45.0	1.60	12.00	-34.60	-30	4.60
4607.84	58.58	287	1.8	V	-42.1	1.60	12.00	-31.70	-30	1.70

Note:

Absolute Level = Substituted Level - Cable loss + Antenna Gain

Margin = Limit- Absolute Level

FCC § 74.861(e)(4) - FREQUENCY STABILITY

Applicable Standard

According to § 74.861(e)(4):

The frequency tolerance of the transmitter shall be 0.005 percent.

Test Procedure

According to FCC 2.1055, (a) the frequency stability shall be measured with variation of ambient temperature as follows:

(1) From -30° to +50° centigrade for all equipment except that specified paragraphs (a)(2) and (3) of this section.

(2) From -20° to +50° centigrade for all equipment to be licensed for use in the Maritime Services under part 80 of this chapter, except for Class A, B and S Emergency Position Indicating Radio beacons (EPIRBs), and equipment to be licensed for use above 952 MHz at operation fixed stations in all services, stations in the Local Television Service and Point-to-Point Microwave Radio Service under part 21 of this chapter, equipment licensed for use aboard aircraft in the Aviation Service under part 87 of this chapter, and equipment authorized for use in the Family Radio Service under part 95 of this chapter.

(3) From 0° to +50° centigrade for equipment to be licensed for use in the Radio Broadcast Services under part 73 of this chapter

(b) Frequency measurements shall be made at the extremes of the specified temperature range and at intervals of not more than 10° centigrade through the range. A period of time sufficient to stabilize all of components of the oscillator circuit at each temperature level shall be allowed prior to frequency measurement. The short term transient effects on frequency of due to keying (except for broadcast transmitters) and any heating element cycling normally occurring at each ambient temperature level also shall be shown. Only the portion or portions of the transmitter containing the frequency determining and stabilizing circuitry need be subjected to the temperature variation test.

(d) The frequency stability shall be measured with variation of primary supply voltage as follows:

(1) Vary primary supply voltage from 85 to 115 percent of the nominal value for other than hand carried battery equipment.

(2) The supply voltage shall be measured at the input to the cable normally provided with the equipment, or at the power supply terminals if cables are not normally provided. Effects on frequency of transmitter keying (except for broadcast transmitters) and any heating element cycling at the normally supply voltage and at each extreme also shall be shown.

If an unmodulated carrier is not available, the measurement method shall be described in the test report.

Test Data

Environmental Conditions

Temperature:	25 °C
Relative Humidity:	52 %
ATM Pressure:	101.0 kPa

The testing was performed by Gavin Guo on 2020-06-16.

Test Mode: Transmitting

Middle channel				
$f_0=566.14\text{MHz}$				
Temperature (°C)	Power Supplied (DC V)	Measured frequency (MHz)	Error(ppm)	Limit (ppm)
-30	3.7	566.134713	-9.34	50
-20		566.134659	-9.43	50
-10		566.134677	-9.40	50
0		566.134691	-9.38	50
10		566.134703	-9.36	50
20		566.134694	-9.37	50
30		566.134682	-9.39	50
40		566.134669	-9.42	50
50		566.134698	-9.37	50
20	3.2	566.134672	-9.41	50
20	4.2	566.134703	-9.36	50

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