

The following is response to the question 14.

Reference Frequency: 188.991 MHz Limit: 0.005%							
Environment Temperature (°C)	Power Supplied (Vdc)	Frequency measured with time elapsed					
		2 minute		5 minute		10 minute	
		MHz	%	MHz	%	MHz	%
25	9 V dc	188.991	0.0037	188.991	0.0036	188.991	-0.0017
25	8.5 V dc	188.996	0.0022	188.996	0.0021	188.987	-0.0021
25	8.0 V dc	188.995	0.0020	188.991	-0.0001	188.990	-0.0004
25	7.5 V dc	188.993	0.0008	188.996	0.0029	188.993	0.0008
25	7.0 V dc	188.989	-0.001	188.985	-0.0032	188.984	-0.0036

The EUT will not work when power supply is under 7V dc.

Joe,

I will answer your engineering questions in the same order as which your attached listed. Please transfer my reply to the person in charge.

This wireless microphone is not a part of Karaoke system used for consumer. It's for professional and met the scope of FCC rule 74.831.

(C)

(1) The applicant and the manufacturer are the same. " Guangzhou Bai Yun New Century Electronics Factory" and the address is " Yong Tai Industrial Area, Bai Yun, Guangzhou, China"

(3) The emission power on Page 32 should be 0.02mW. And 50mW maximum emission power will not appear in that page. I will send you the modified report.

(4) The emission type is F3E250K.

7) The maximum power rating is 0.02mW after the factory tune-up procedure.

(8)The attached is block diagram for transmitter. We will remove the receiver portion in the report. Please see the revised report.

(9) The following is the factory tune-up procedure:

- a. Set the voltage of power supply to 9V
- b. Adjust VC1 to let the transmit frequency match to the TX frequency
- c. Measure the output power of the TX, make sure the power level is 0.02mW.
- d. Adjust VC2 to trim the local oscillate frequency, make sure the center frequency is at $189.316 \pm 5\text{kHz}$

(10) Description of any circuits or devices employed for suppression of spurious radiation, for limiting modulation and for limiting power.

a) Suppression of spurious radiation:

The circuitry between the collector of BG3 and the base of BG4 and the circuitry between the collector of BG4 and the antenna are coupled resonator filters centered at the transmitter frequency and suppress all out of band harmonics.

b) Limiting Modulation:

The transmitter audio processing is contained in IC3 and the external circuitry connected to IC3 This IC is configured as a circuit providing microphone gain and compression beyond a certain drive level.

c) Limiting Power:

There is no circuitry specifically included to limit power. Output power is limited by the collector current in BG4

(11) It's a mistake. Please see the revised report. (We removed the base).

(14)

a) Frequency stability versus supply voltage (9V dc)

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b) The output power we got was –18 dBm. When we converted to the power in mW, we used the formula $-18 \text{ dBm} = 10 \log P$ where p is in mW. Therefore, the P was 0.02 mW.

c) The measurement procedure was as the following:

14 c 1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.

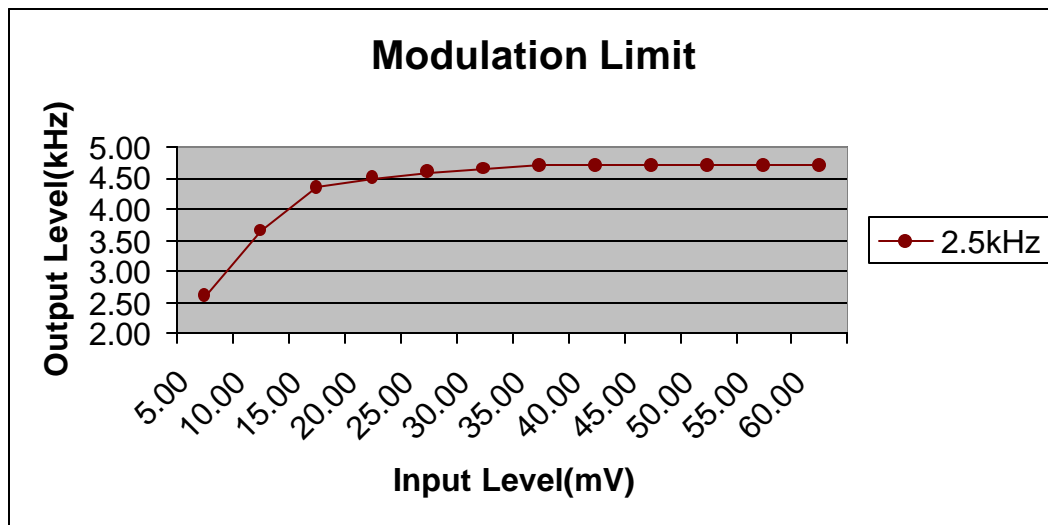
14 c 2. Position the EUT as shown in the test report, and install new batteries in the EUT. Turn on the EUT. Set a reference level on the measuring instrument equal to the highest peak value.

14 c3. Apply a 2.5 kHz modulation signal to EUT and measure the frequencies of the modulated signal from the EUT where it is the specified number of dB below the reference level set in step 2. This is the occupied bandwidth specified.

Modulation Limit

Adjust the audio input frequency for 2500 Hz and the input level from 0V to maximum permitted input voltage with recording each carrier frequency deviation responding to respective input level.

Input Level(mV)	5.00	10.00	15.00	20.00	25.00	30.00	35.00	40.00	45.00	50.00	55.00	60.00
Output Level(kHz)	2.60	3.65	4.35	4.50	4.60	4.65	4.70	4.70	4.70	4.70	4.70	4.70



d) The conducted emission was tested with 2.5kHz modulation input

WM-2000

MKR Δ 91.8 kHz

hp

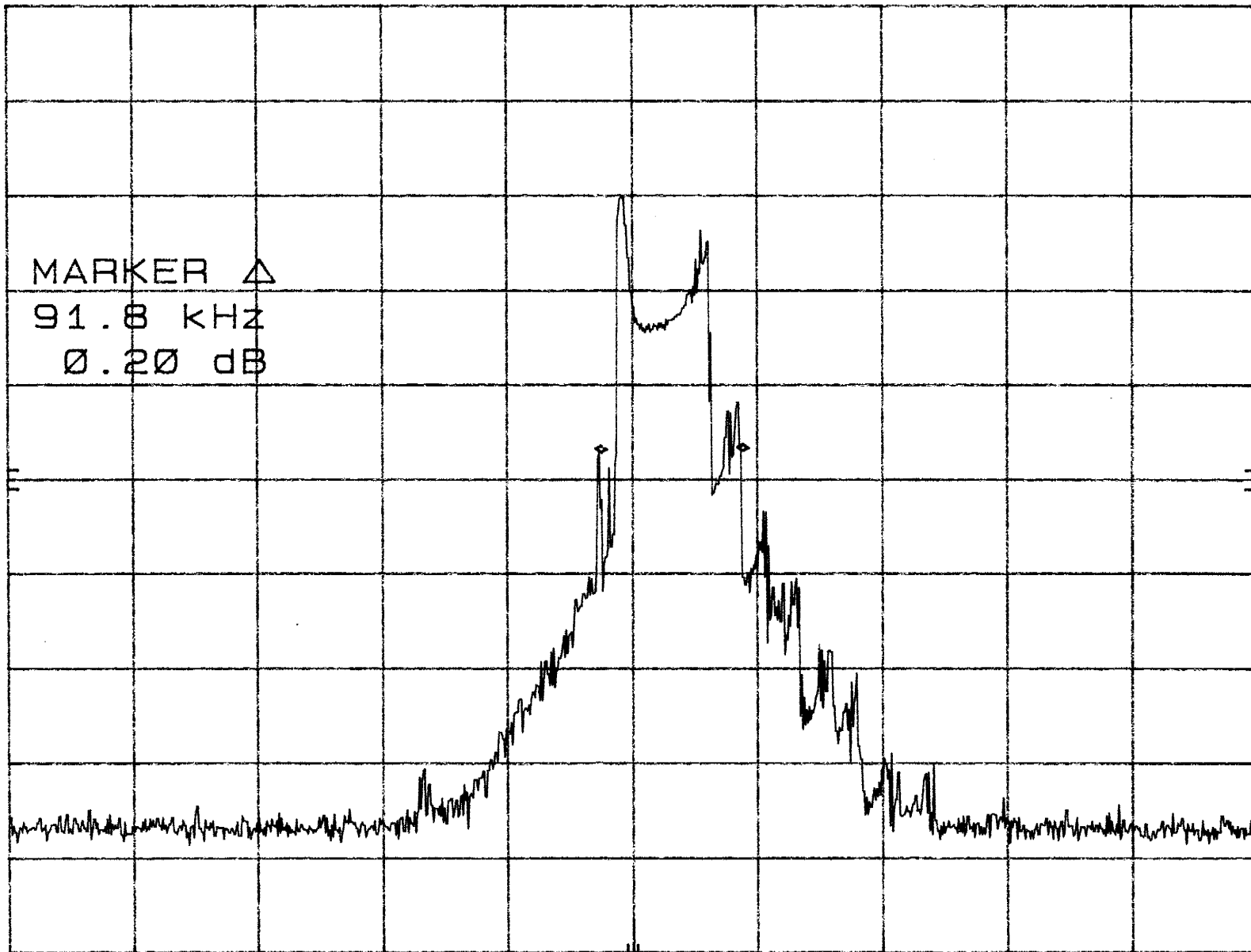
REF 10.0 dBm

ATTEN 20 dB

0.20 dB

10 dB/

MARKER Δ
91.8 kHz
0.20 dB



CENTER 189.321 MHz

RES BW 1 kHz

VBW 100 kHz

SPAN 805 kHz

SWP 10.0 sec

WM-2000

hp

REF 10.0 dBm

ATTEN 20 dB

MKR Δ 12.5 kHz
-70.10 dB

10 dB/

DL
-36.4
dBm

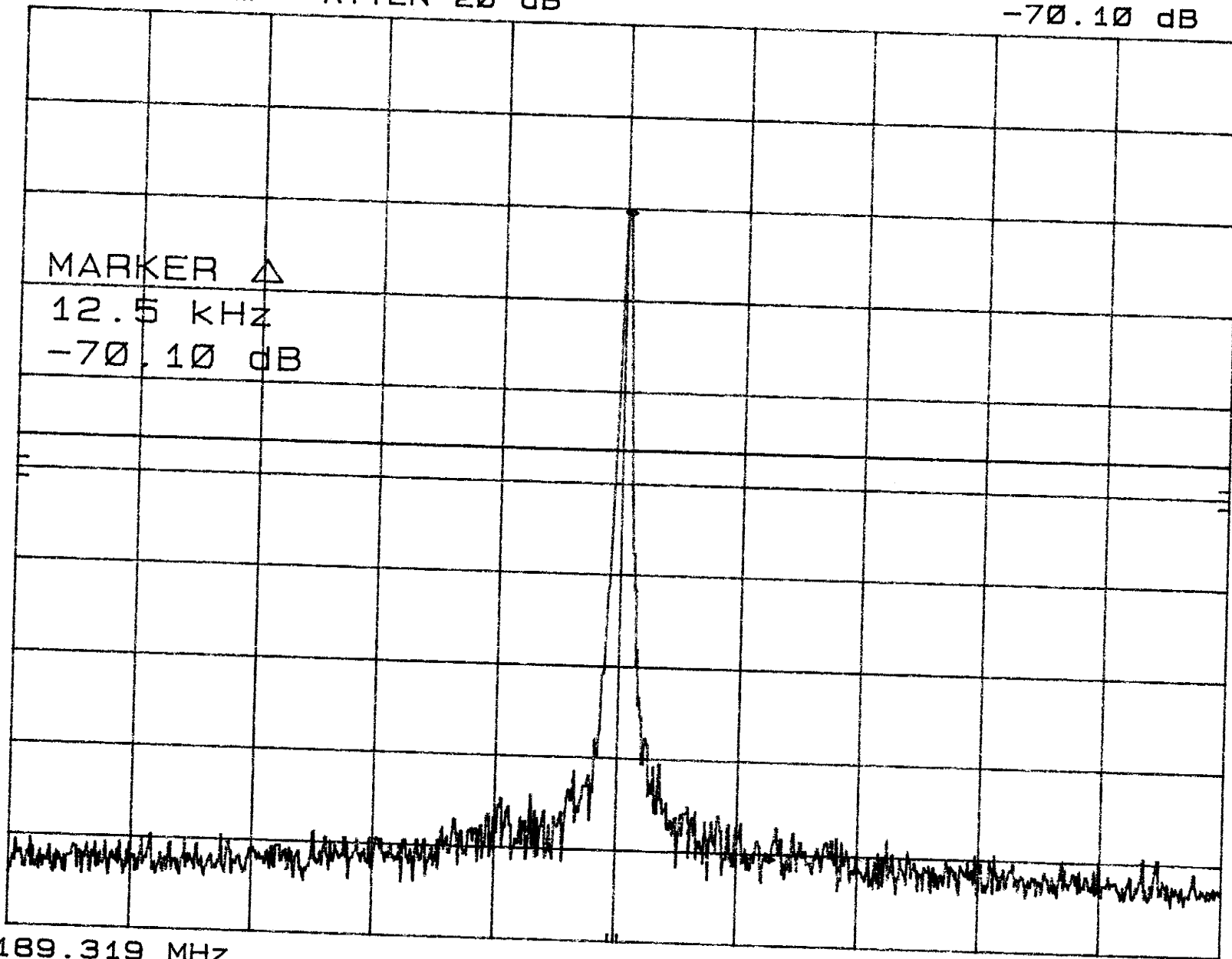
MARKER Δ
12.5 kHz
-70.10 dB

CENTER 189.319 MHz

RES BW 300 Hz

VBW 30 kHz

SPAN 100 kHz
SWP 5.00 sec



WM-2000

hp

REF 10.0 dBm

ATTEN 20 dB

MARK Δ 6.3 kHz
-67.70 dB

10 dB/

DL
-36.4
dBm

MARKER Δ
6.3 kHz
-67.70 dB

CENTER 189.319 MHz

RES BW 300 Hz

VBW 30 kHz

SPAN 100 kHz
SWP 5.00 sec

