March 21, 2000

Frank Coperich
Fcoperic@fcc.gov
Correspondence Reference Number : 12136

From : Leon Kogan, JMR Electronics Inc.

Applicant : Listen Technologies Corporation
FCC ID: OMD800-216
731 Confirmation Number : EA96002

Dear Mr. Coperich:

Below you will find the information that was requested in your letter on February 14, 1999. All items concur with the numbered questions in your past e-mail.

ITEM 1:

: Please submit measurement data showing the frequency for operation down to – 30 degrees C as required by Section 2.1055(a)(1) of the Commission's R&R.

LT-800 unit had been re-tested for Frequency stability for operation down to –30 degrees C. The test results are in the table below for the standard and extra band channels.

1) Channel 1A , Fcarrier (Fc) = 216.0125 MHz

Temperature Measured ° C	Frequency measured Fm MHz	Frequency tolerance F=Fm-Fc kHz	Frequency stability Limit, Flim kHz	Status
0	216.013952	1.056	10.8	PASS
10	216.013942	1.442	10.8	PASS
20	216.013504	1.004	10.8	PASS
30	216.013248	0.748	10.8	PASS
40	216.012544	0.044	10.8	PASS
50	216.012256	-0.244	10.8	PASS
- 10	216.010957	-1.543	10.8	PASS
- 20	216.010013	-2.487	10.8	PASS
- 30	216.008133	-4.367	10.8	PASS

2) Channel 2A , Fcarrier (Fc) = 216.025 MHz

Temperature Measured ° C	Frequency measured Fm MHz	Frequency Tolerance F=Fm-Fc kHz	Frequency stability Limit, Flim kHz	Status
0	216.026592	1.592	10.8	PASS
10	216.026400	1.400	10.8	PASS
20	216.026048	1.048	10.8	PASS
30	216.025504	0.504	10.8	PASS
40	216.025152	0.152	10.8	PASS
50	216.024656	-0.344	10.8	PASS
- 10	216.023532	-1.468	10.8	PASS
- 20	216.022093	-2.907	10.8	PASS
- 30	216.020207	-4.793	10.8	PASS

ITEM 2:

: Please list actual ERP on FCC Form 731 and provide a justification for this value

ERP – Effective Radiated Power. This is the product of the radio frequency power (P), expressed in Watts, delivered to an antenna, and the relative gain (G) of the antenna over that of a half wave dipole antenna.

Thus, the formula to calculate EPR is "**ERP=P + G**"

Where **P** is the radio frequency power, expressed in dBm, delivered to an antenna and included transmission line losses**;**
G is the relative gain of the antenna over that of a half wave dipole antenna, expressed in dB.

According to "5.1. RF Power Output of LT-800 Test report" the Peak measurements including transmission line losses were

19.13 dBm for ch.1A,
19.02 dBm for ch.1K,
18.95 dBm for ch.1V,
19.13 dBm for ch.2A,
18.99 dBm for ch.2K,
18.92 dBm for ch.2V.

The average RF Power Output "P" is 19.02 dBm. The relative gain G of a half-wave dipole antenna is 2.68 dB.

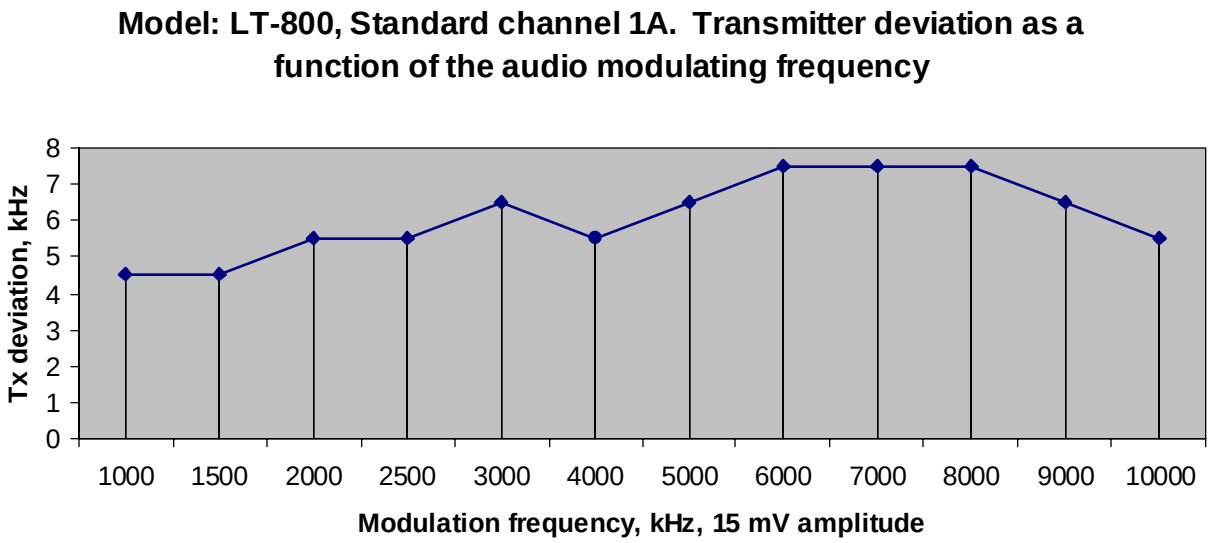
Thus,

ERP = 19.02 + 2.68 = 21.7 (dBm) = 0.147 W

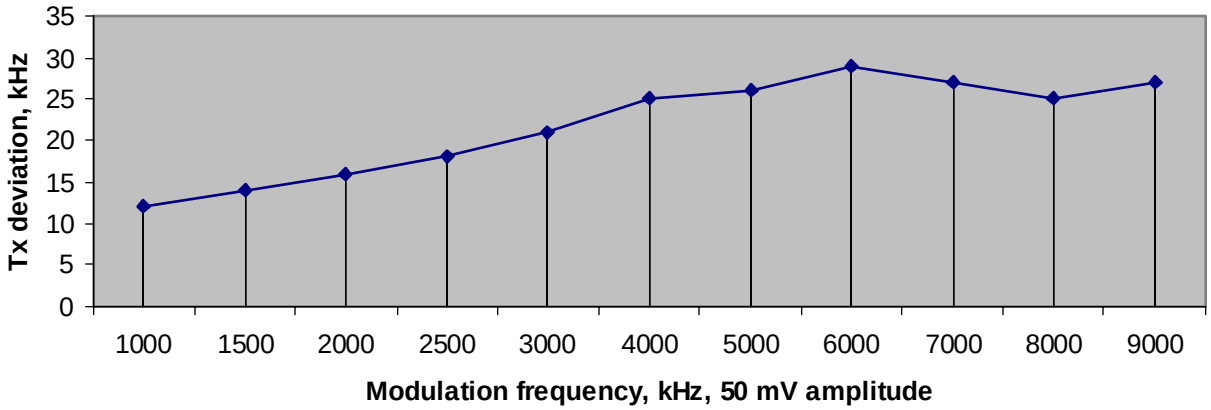
ITEM 3:

: Please provide modulation limiting data, which would be plots of the transmitter deviation as a function of input level – done at several frequencies over the audio modulating range.

Please see plots of modulation limiting data below:



Model LT-800, Extra band channel 2A. Transmitter deviation as a function of the audio modulating frequency



ITEM 4:

: Please provide a calculation of the necessary bandwidth , as specified under Section 2.202 of the Commission's R&R, for both the standard and extra band channel (width) modes.

The necessary bandwidth calculations for both standard and extra band channel are below:

The necessary bandwidth determines by the following formula:

Bn = 2M + 2DK,

Where

M is the maximum modulation frequency in Hz;
D is the Peak frequency deviation, i.e. half the difference between the maximum and minimum values of the instantaneous frequency.
K is 1 (typically)

The calculation for the Standard channels is:

M = 10 kHz;
D = 12.5 kHz;
K = 1;

Bn = 2x10 + 2x12.5x1 = 45 (kHz)
The designation of emission is **45KF3E**

The calculation for the Extra band channels is:

M = 6 kHz;
D = 6.25 kHz;
K = 1;

Bn = 2x6 + 2x6.25x1 = 24.5 (kHz)
The designation of emission is **24K5F3E**

Note:. The transmitter utilizes an internal switch to set modulation and deviation bandwidth for standard and extra band channels.

I hope these answers are sufficient. If there are any further questions, please feel free to email me or call me back .

Sincerely,

Leon Kogan

Technical Director
JMR Compliance Engineering
Voice: 818.739-1122
Fax: 818.993-9173
E-mail: LeonK@jmr.com