

Applicant: Motorola

Equipment type: ABZ89FC5765

### **BANDWIDTH CALCULATIONS**

The subject transmitter uses FM carrier with 4 level and 2 level FSK at 6400, 3200 and 1600 bps. The Bandwidth calculation for each of the case for this permissive change are as follows.

**Emission Designator: 8K00F1D (6400 bps 4 level FSK, Dev.  $\pm$  2400 Hz)**

Max. Freq. Dev. = 2400 Hz

Mod. Freq. = Bits per sec / FSK level  
= 6400/4  
= 1600 Hz

BW = 2 x (Max. Freq. Dev + Mod. Freq.)  
= 2 x (2400 Hz + 1600 Hz)  
= 8000 Hz

Exhibit 3B

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### **OCCUPIED BANDWIDTH**

**Modulation Type:** 6400 and 3200 bps random 4 level FSK data (symbol deviation: +/- 2400 Hz for outer, +/- 800 Hz for inner).

**Modulation Designator:** 8K00F1D and 6K40F1D.

**Channelization:** 12.5 kHz

### **SPECIFICATION REQUIREMENT:**

As per the FCC Rules Part 90.210(G) and 22.

### **Comparison of Simulated Signal Verses Actual Signal**

FM Data Signal Simulator

Each of the four symbols that can be transmitted is generated with equal probability and are sent randomly. Therefore the data transmitted appears as random noise.

### **CALIBRATION STEPS:**

The zero dB reference point for the Mask was set by integrating the total power in the 12.5 kHz bandwidth using the following steps

- a. The Resolution Bandwidth of the Spectrum Analyzer was set to 100 kHz
- b. The Sweep rate was set to 10 Sec
- c. Measure the peak of the waveform.
- d. Set the Reference value of the Spectrum Analyzer to the peak value measured in step c above.

**\*\* Reference Plot Exhibits 10T to 10W**

Exhibit 10T to 10W

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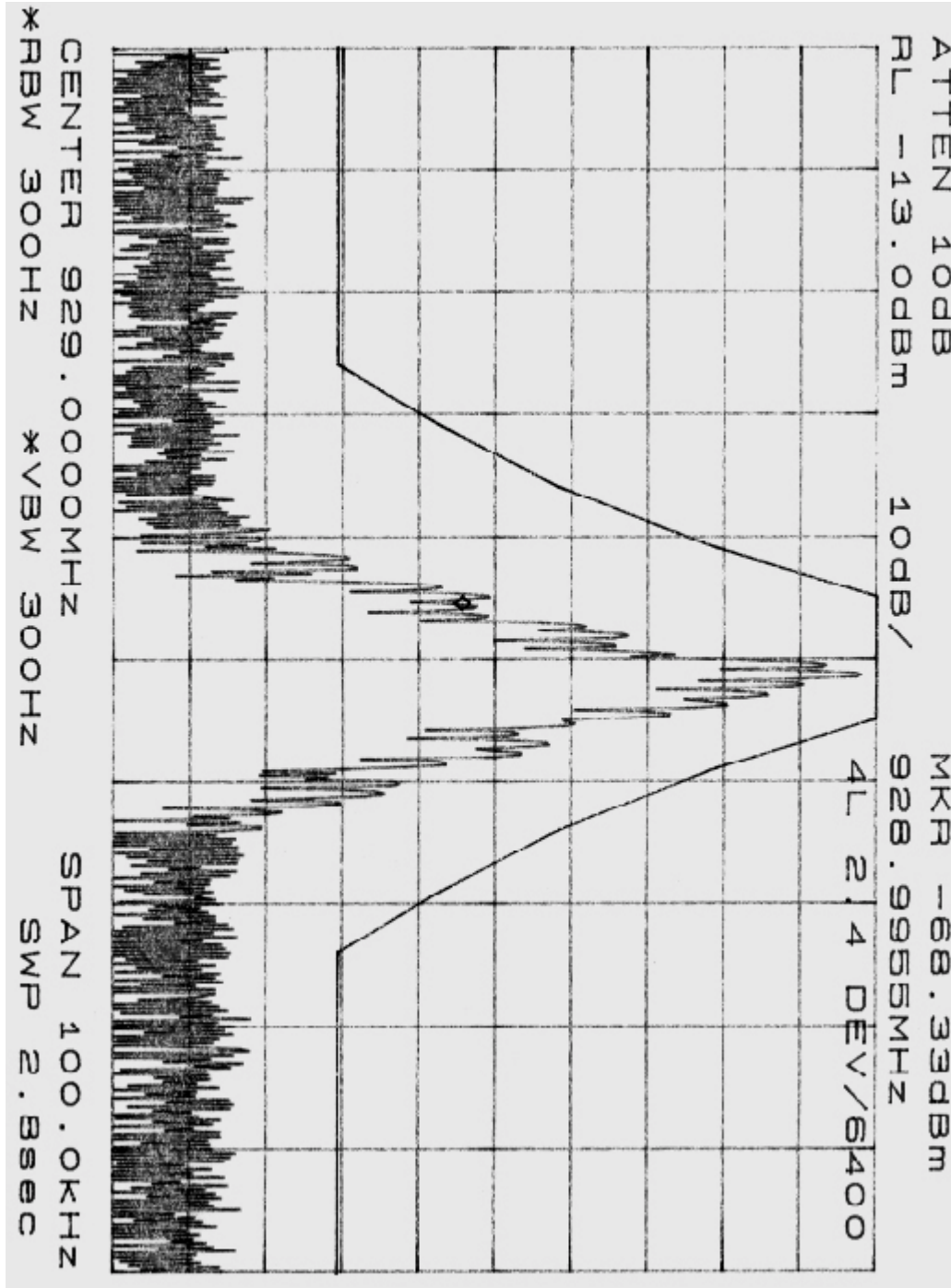


Exhibit 10 T

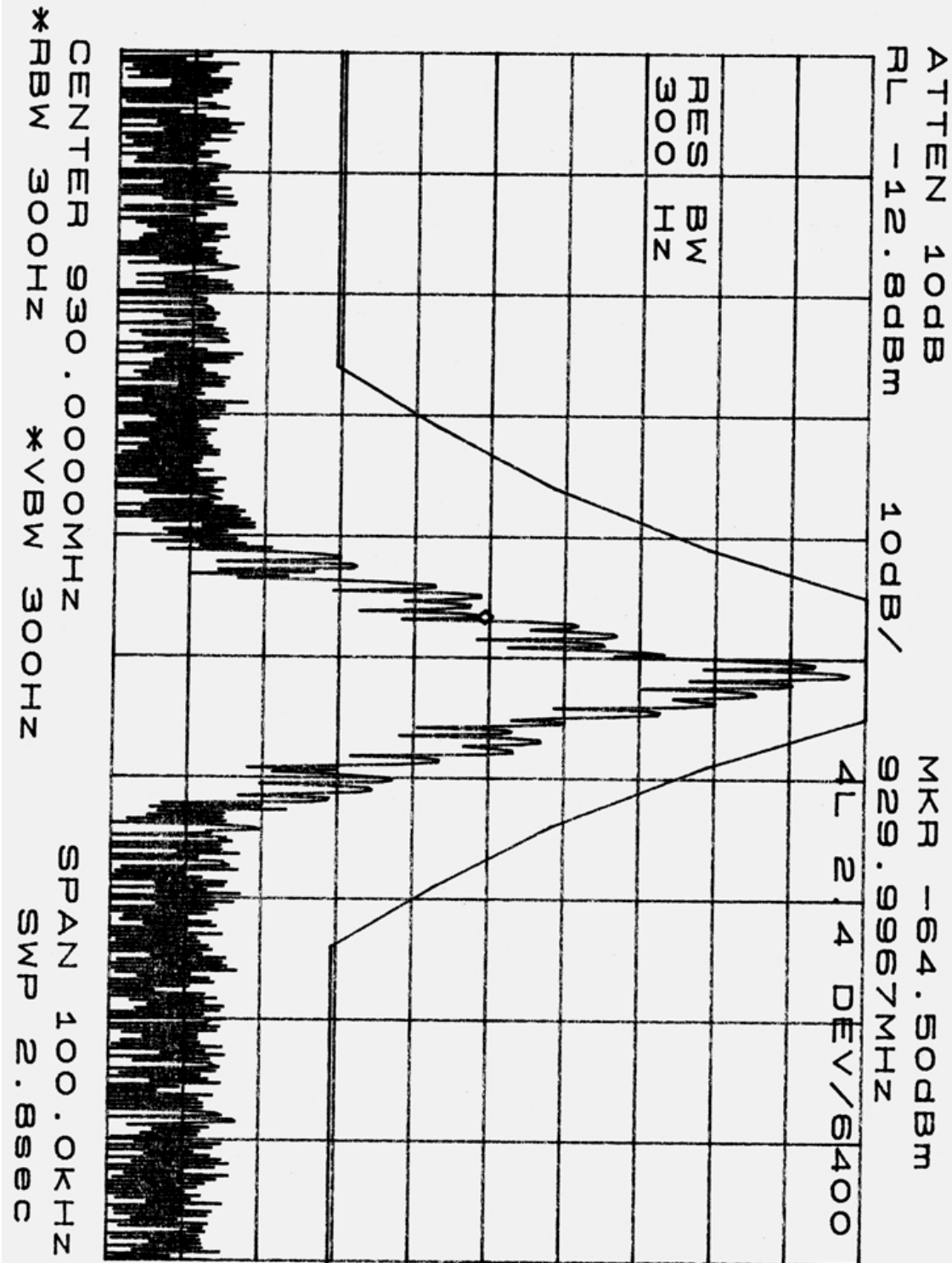


Exhibit 10 U

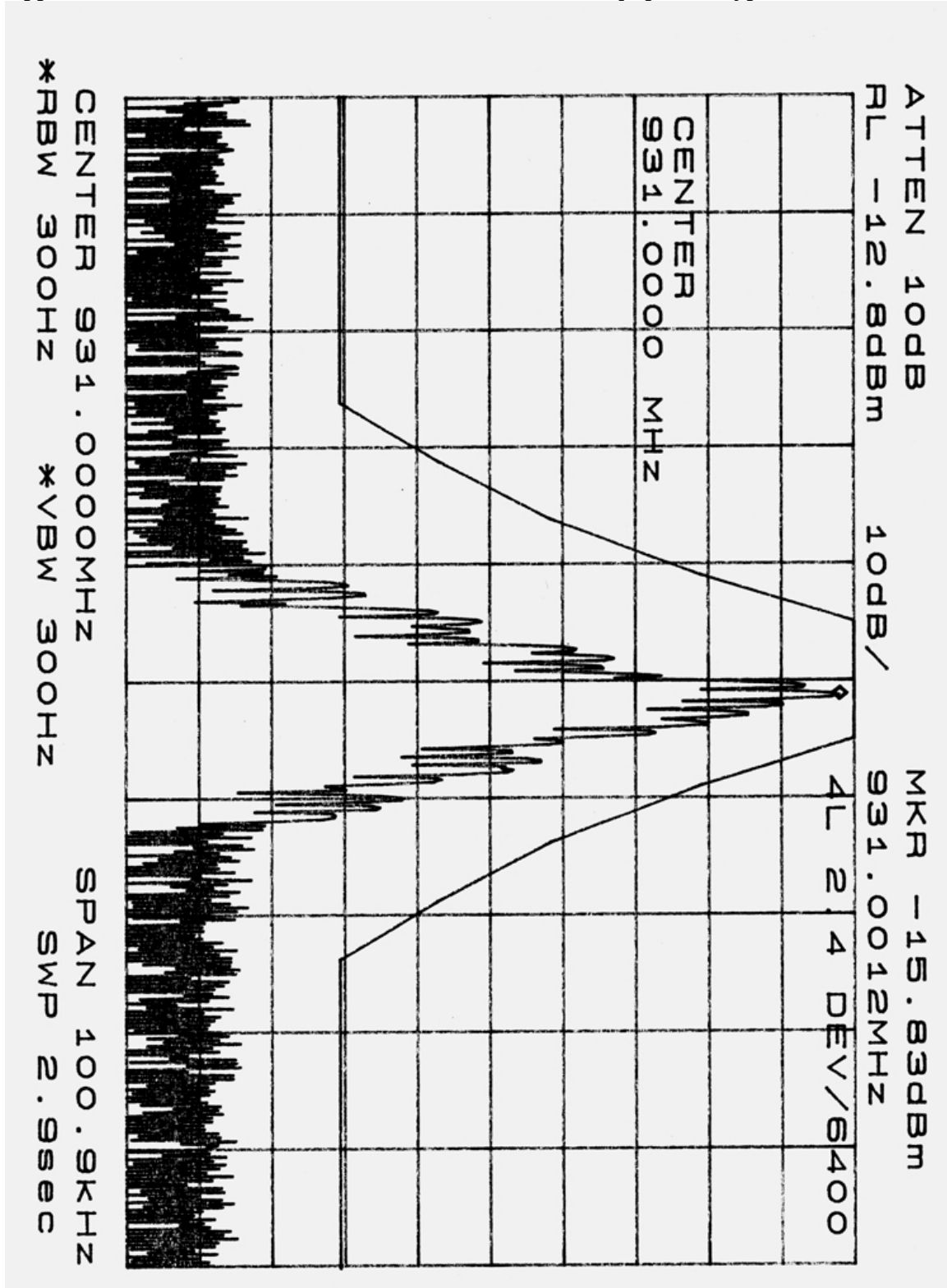


Exhibit 10 V

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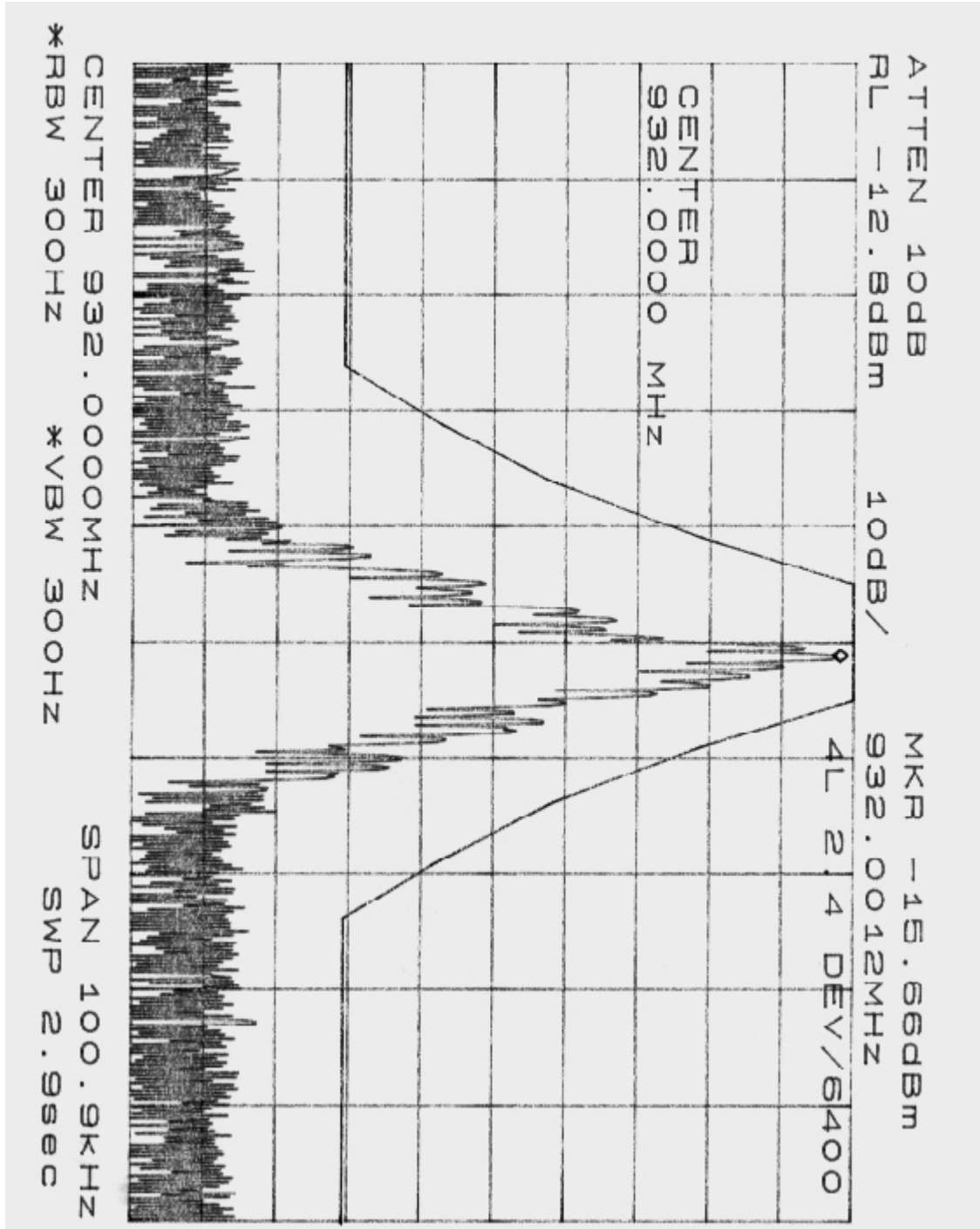


Exhibit 10 W