

## **Appendix F**

### **Measured Spectrum at the Majestic Theatre New York City, NY**

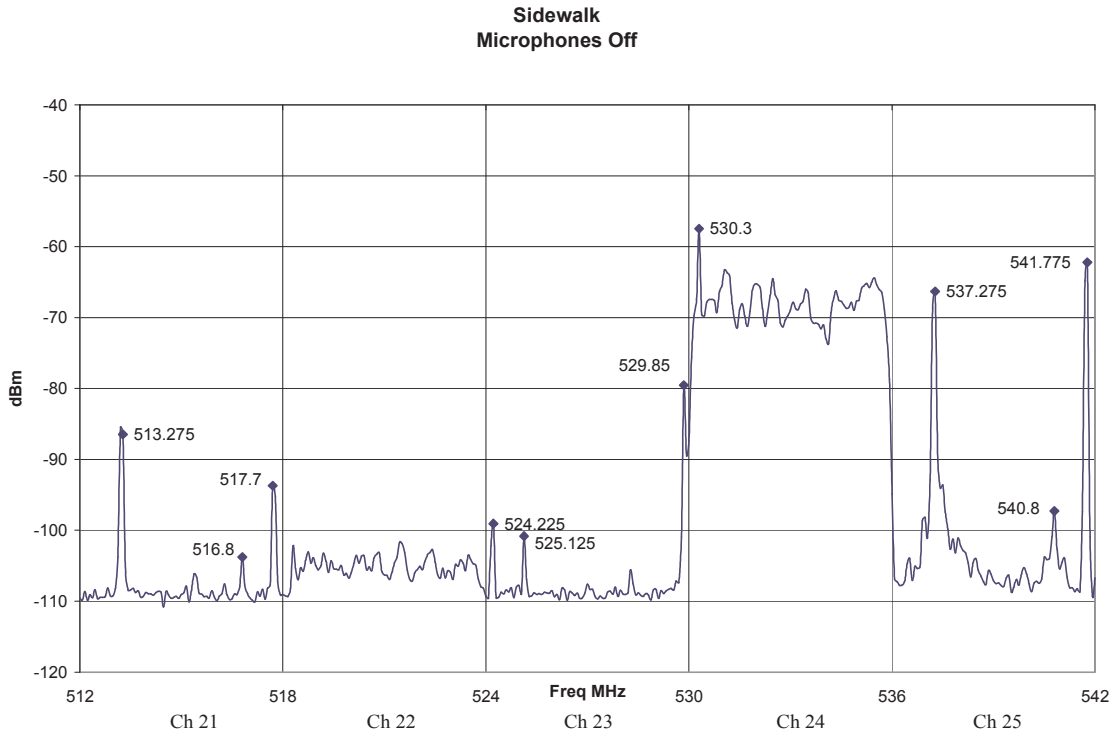
The following charts show the spectrum from TV channels 21 to 51, as observed at the Majestic Theatre on a spectrum analyzer with a ground plane vertical antenna having a gain of approximately 0 dBi.

Figures F-1 to F-14 show the spectrum on the sidewalk at the entrance to the theater, Figures F-15 to F-28 show the spectrum at the middle of the mezzanine, Figures F-29 to F-42 show the spectrum in the orchestra area, row I, stage right. The microphones were turned on and off at each location prior to the performance. Figures F-43 to F-49 show the spectrum on the entrance ramp to the orchestra area, stage left, during the first act of the performance. The on-stage microphones are indicated in red.

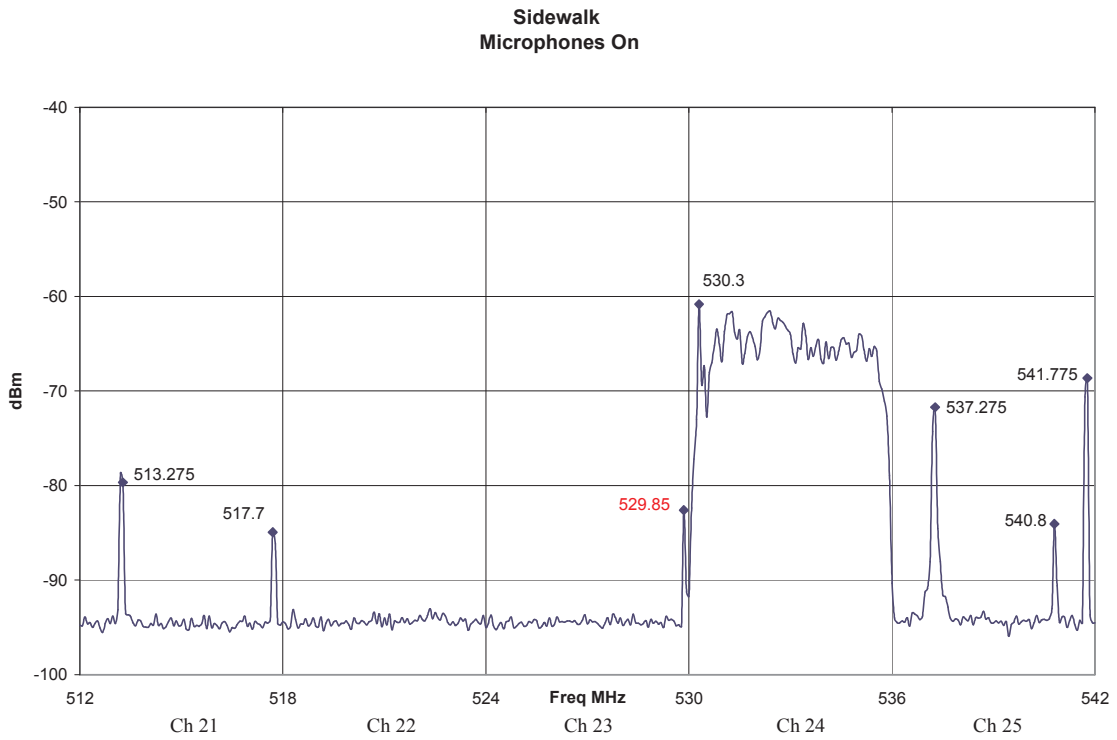
In addition to the eight on-stage microphones used during the testing and during the actual performance, the spectrum scans revealed the spectral signatures of NTSC and DTV television stations, and other narrow band signals. Since the Majestic Theatre is in close proximity to several other theaters, which also use wireless microphones, it is believed that the other narrow band signals were most likely from those other theaters. When analyzing the data, be aware that the frequencies shown are approximate, and that there was a time delay of as much as two hours between measurements with the microphones off and on at a given location.

The on-stage wireless microphones were operating on the following frequencies: 529.875, 542.125, 545.575, 600.275, 621.0, 665.8, 674.125 and 675.0 MHz.

# F.1 RF Spectrum Plots measured on the Sidewalk at Entrance to Theater

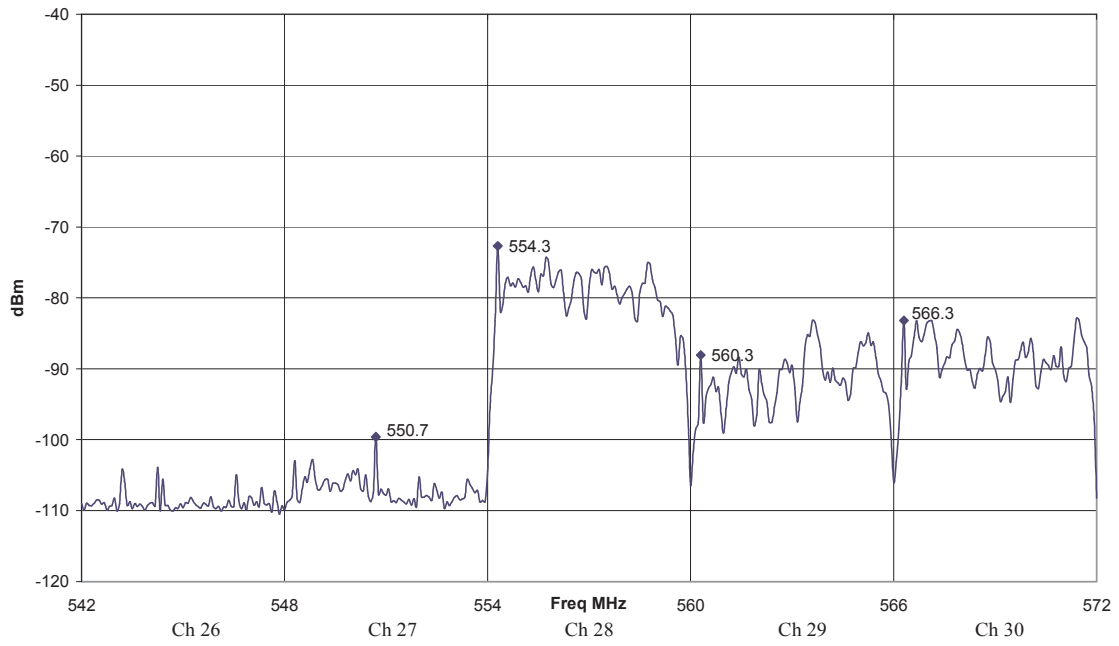


**Figure F-1**



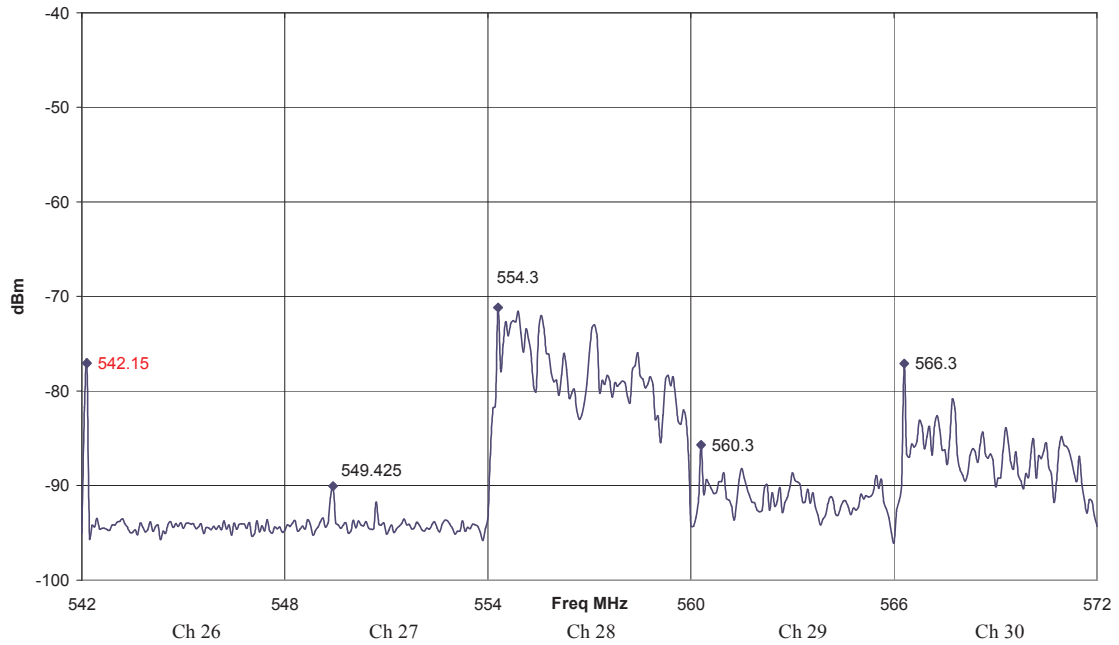
**Figure F-2**

**Sidewalk  
Microphones Off**



**Figure F-3**

**Sidewalk  
Microphones On**



**Figure F-4**

Sidewalk  
Microphones Off

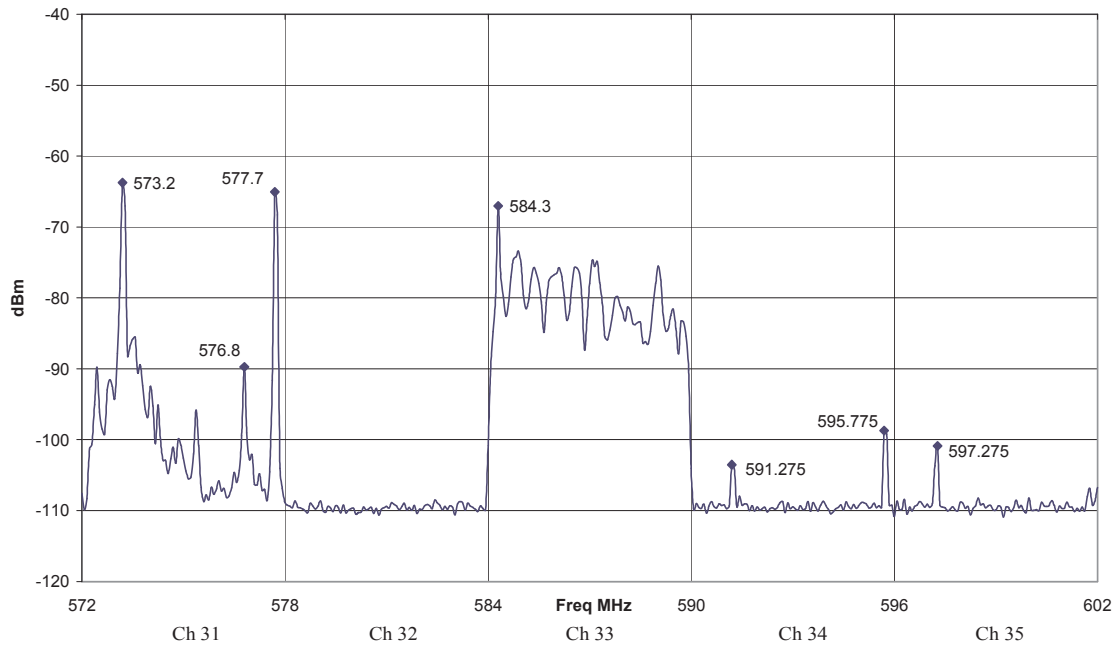


Figure F-5

Sidewalk  
Microphones On

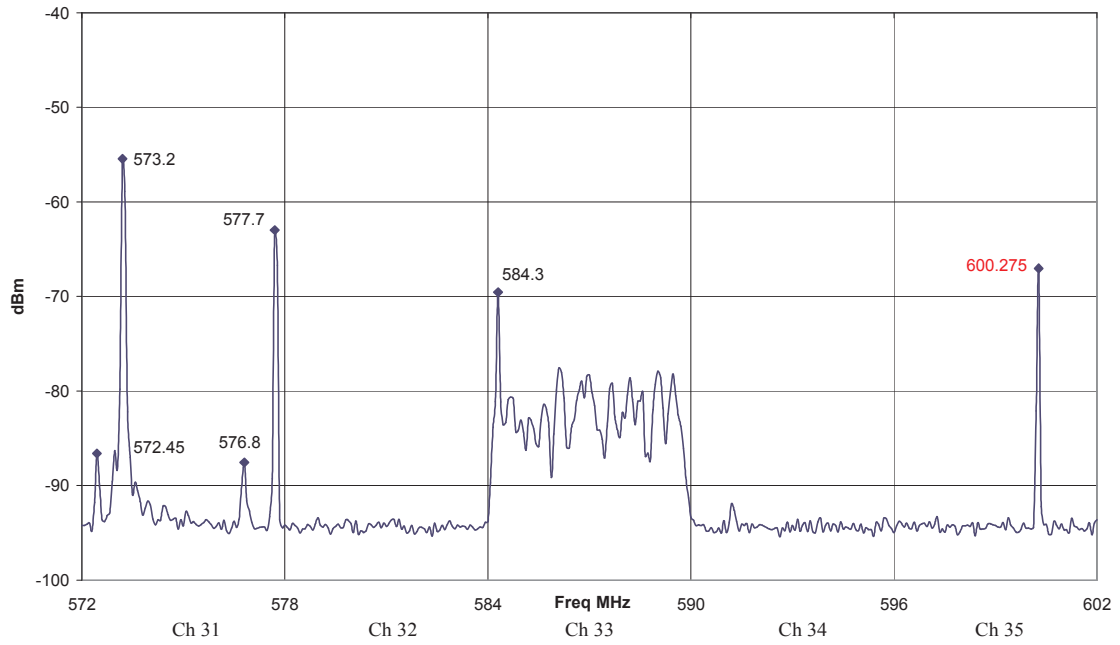


Figure F-6

Sidewalk  
Microphones Off

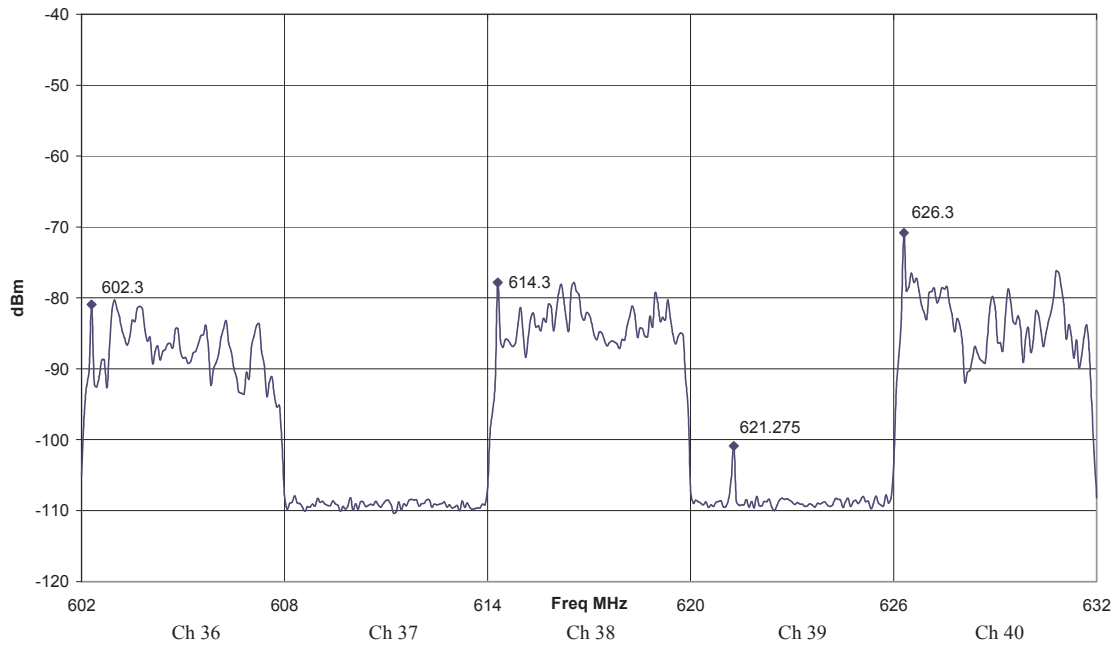


Figure F-7

Sidewalk  
Microphones On

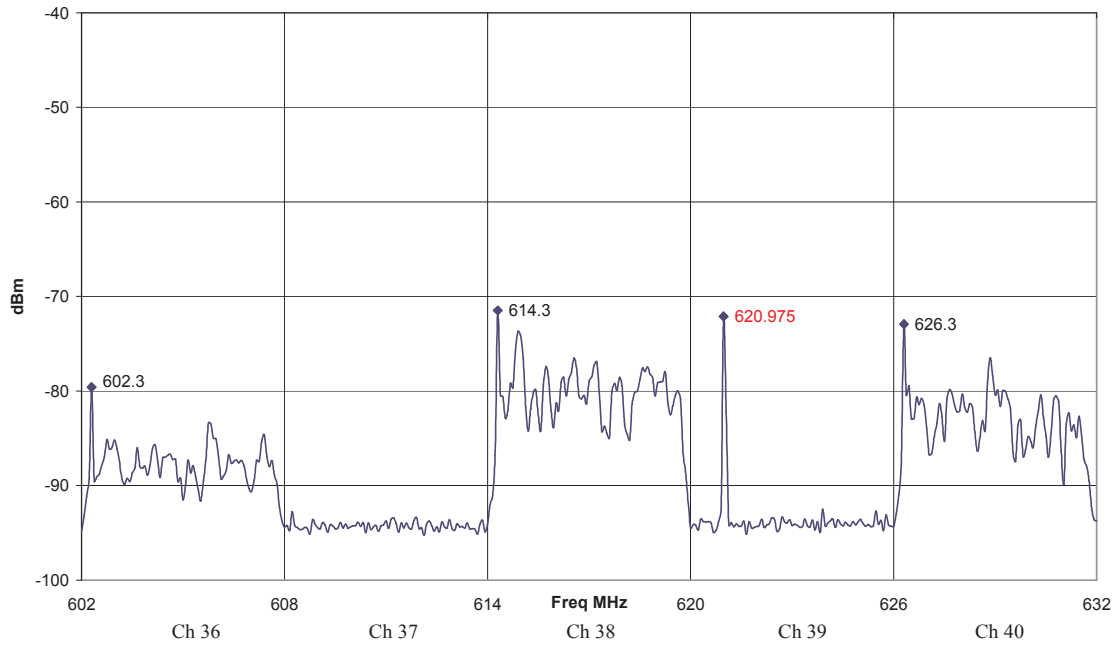


Figure F-8

Sidewalk  
Microphones Off

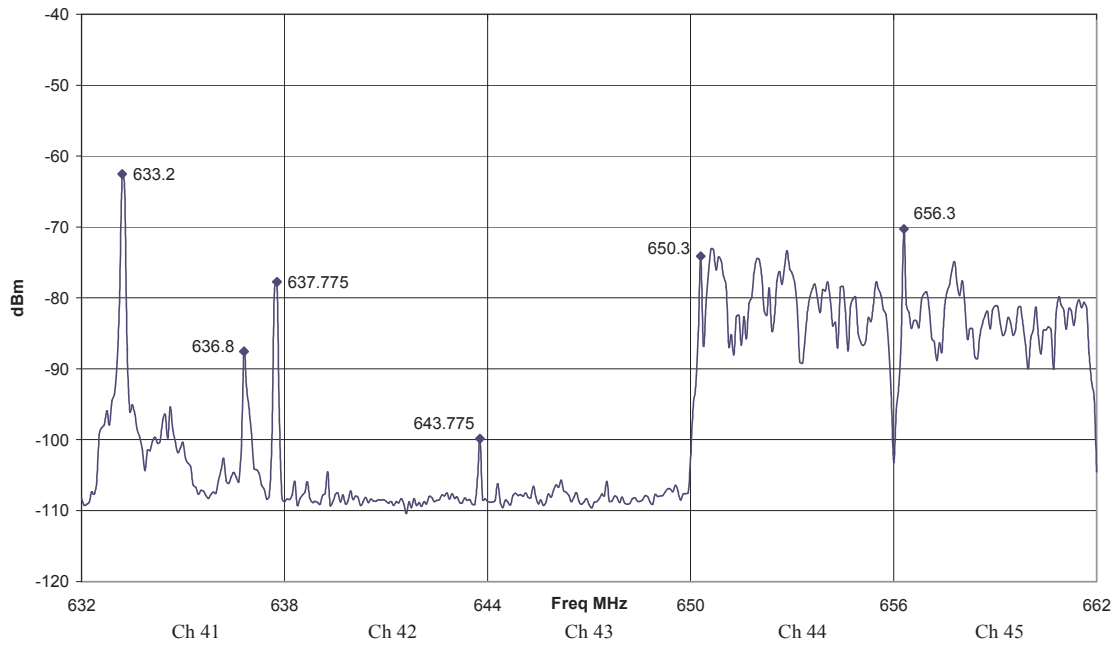


Figure F-9

Sidewalk  
Microphones On

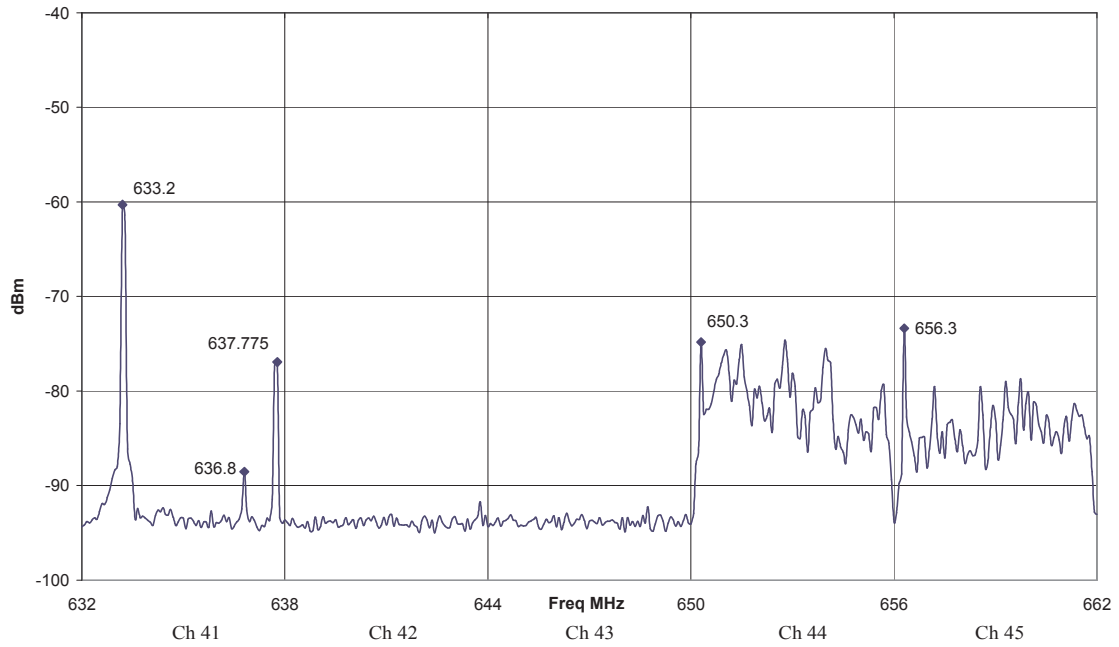
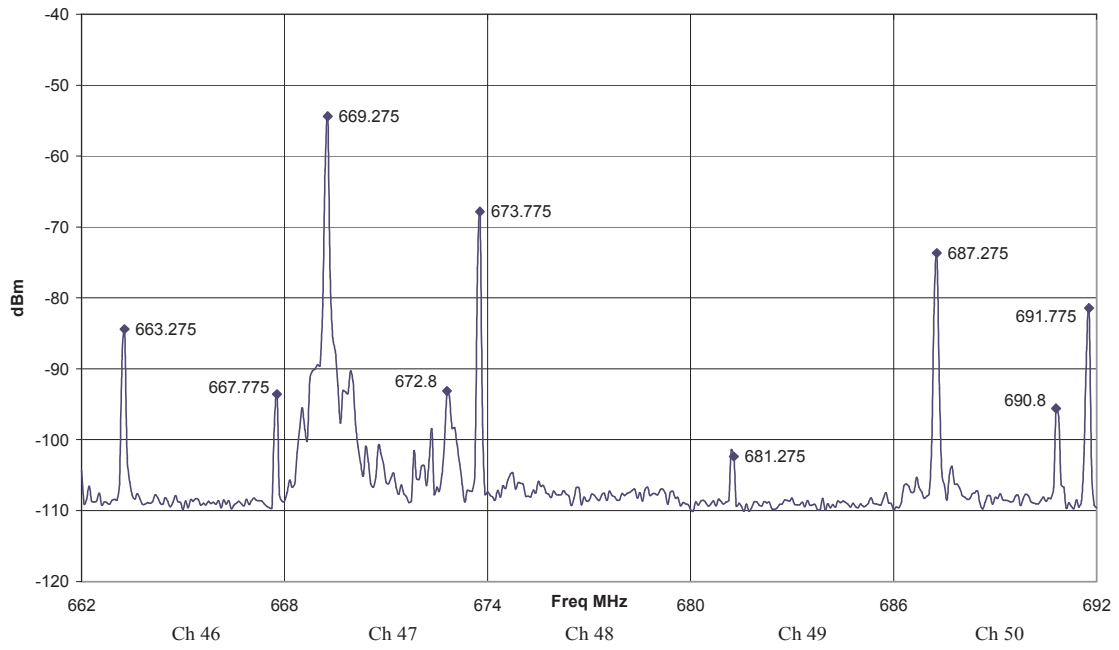


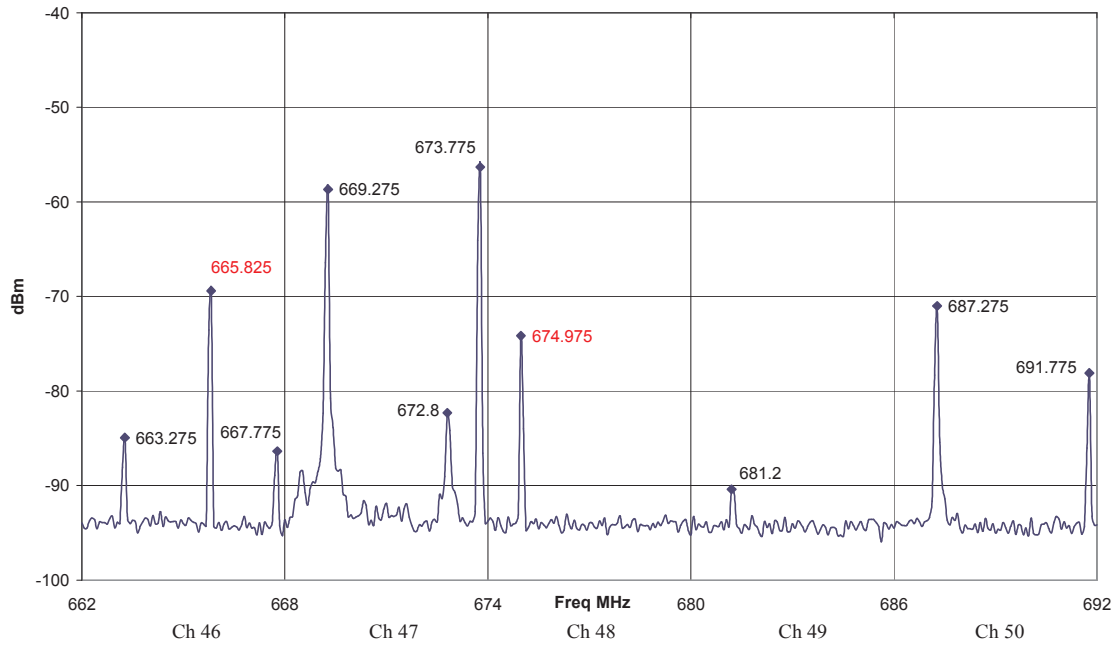
Figure F-10

**Sidewalk  
Microphones Off**



**Figure F-11**

**Sidewalk  
Microphones On**



**Figure F-12**

Sidewalk  
Microphones Off

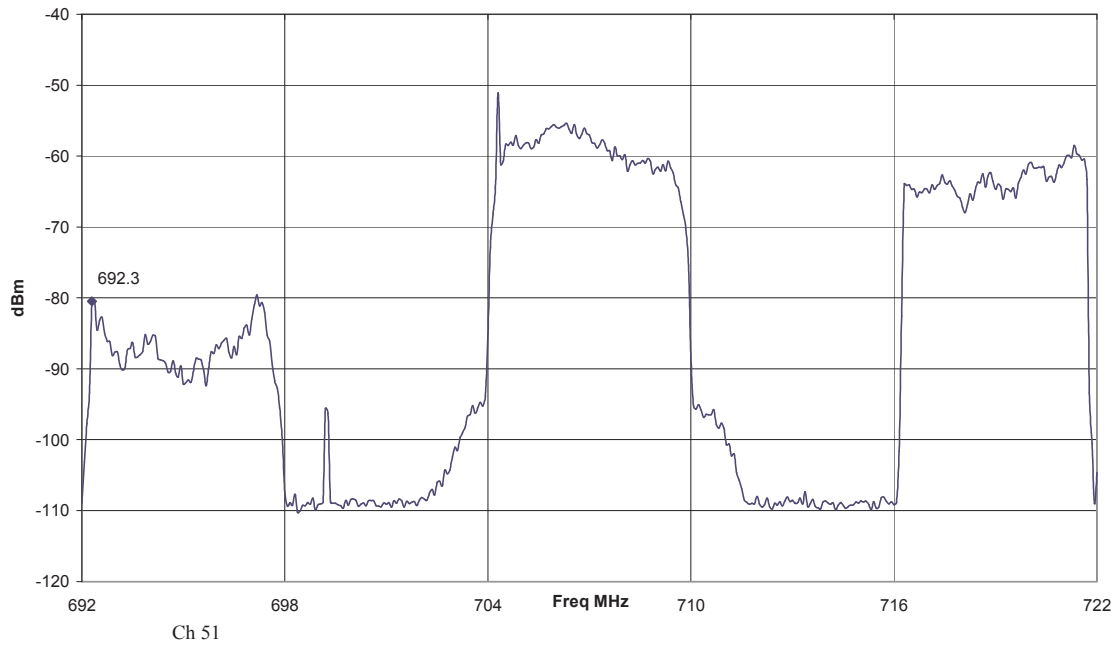


Figure F-13

Sidewalk  
Microphones On

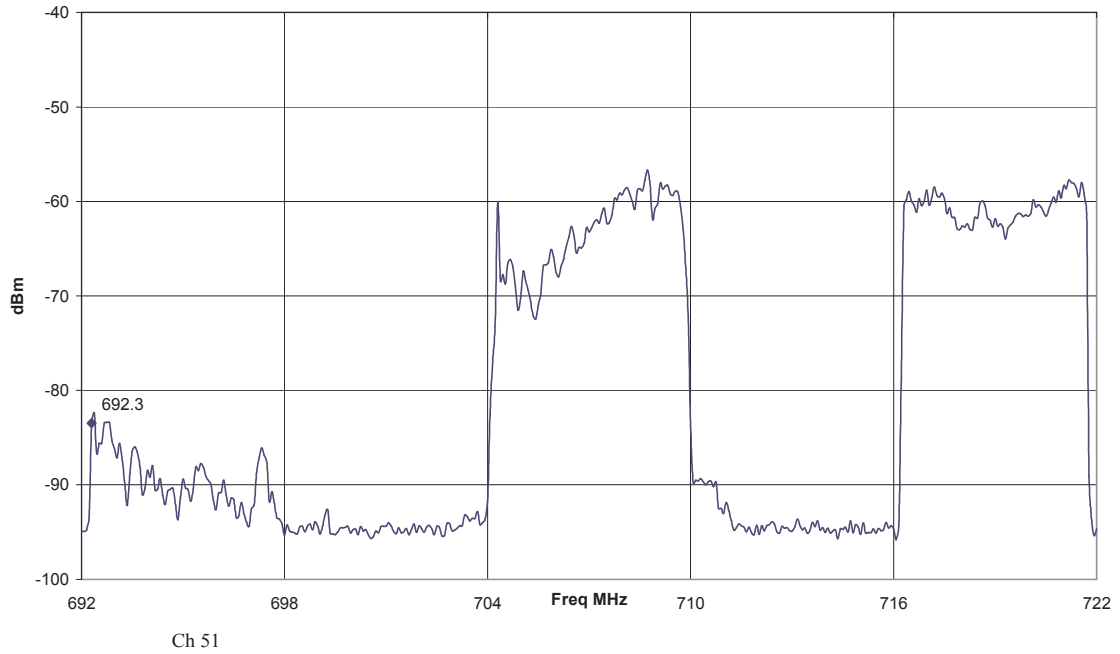
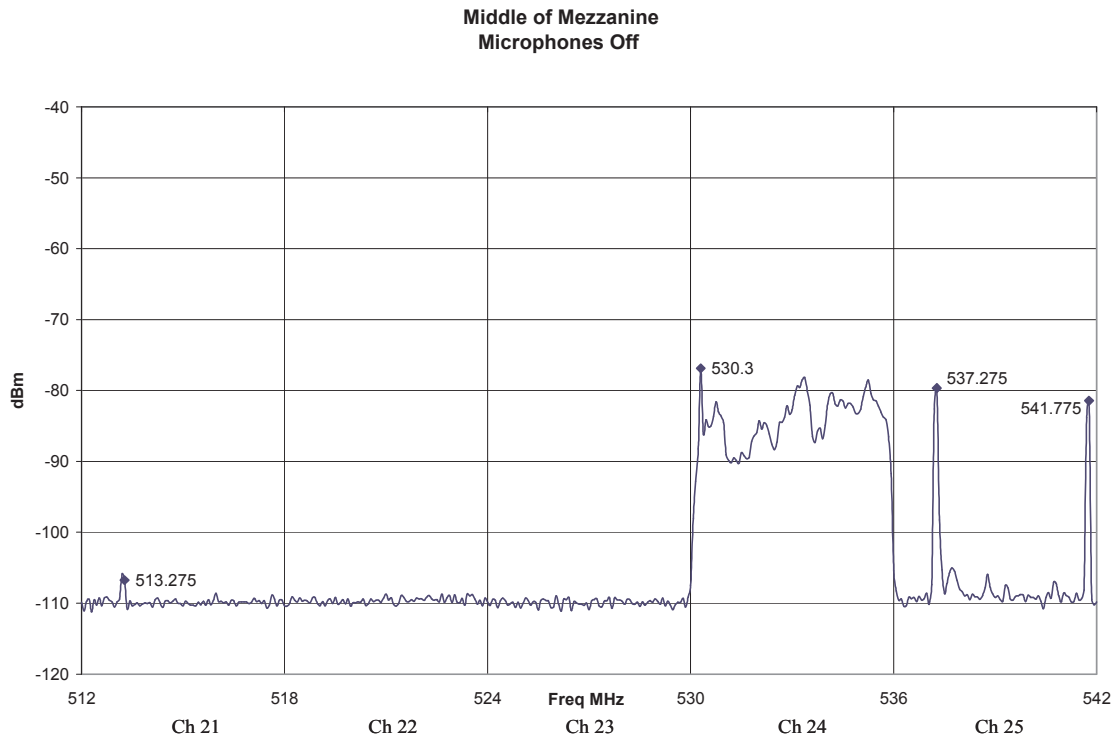


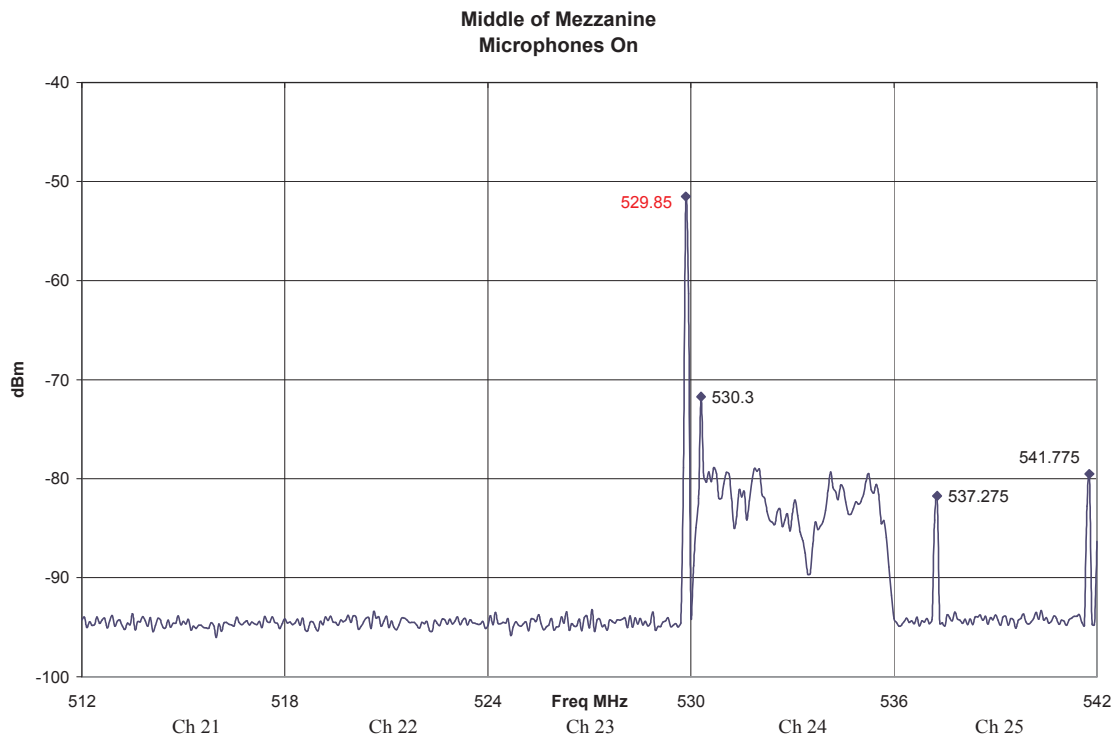
Figure F-14



## F.2 RF Spectrum Plots measured at the Middle of the Mezzanine



**Figure F-15**



**Figure F-16**

Middle of Mezzanine  
Microphones Off

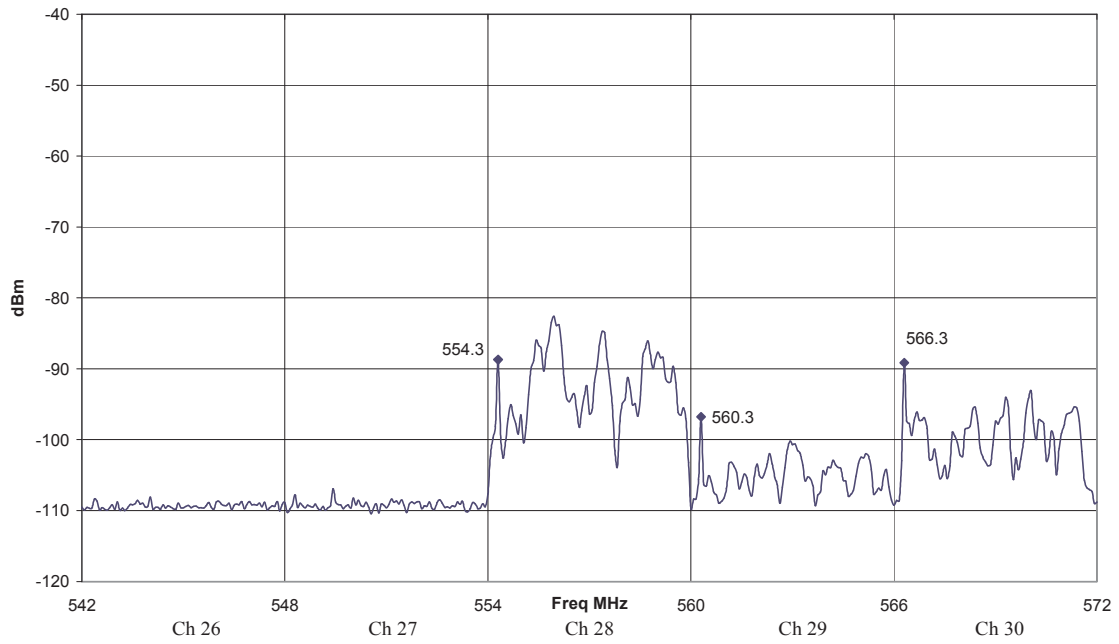


Figure F-17

Middle of Mezzanine  
Microphones On

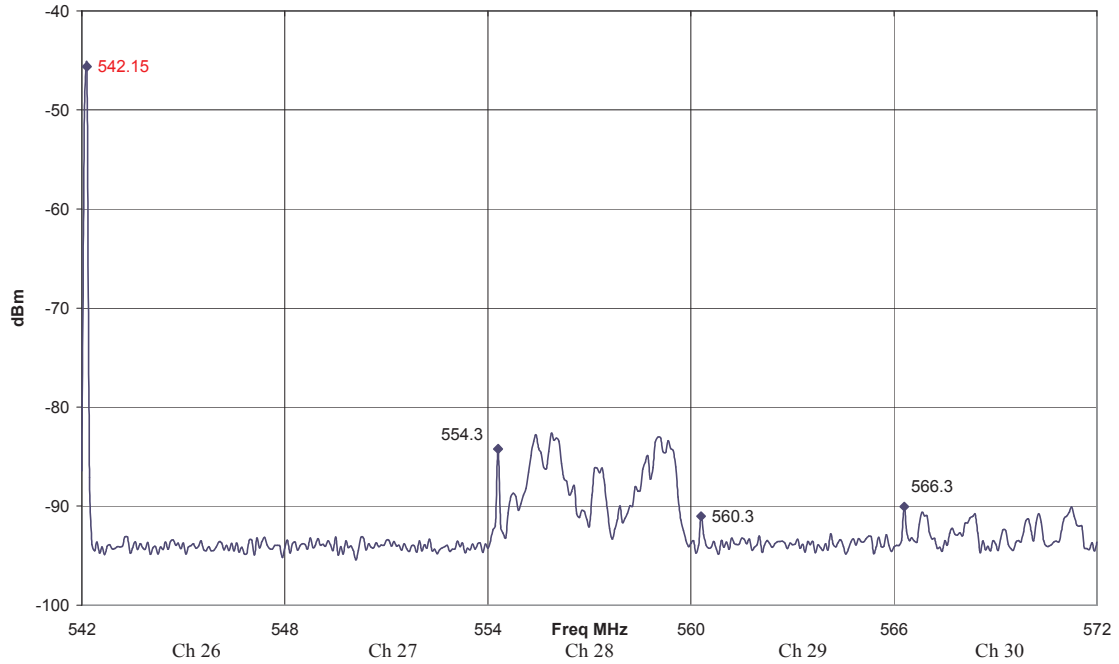


Figure F-18

Middle of Mezzanine  
Microphones Off

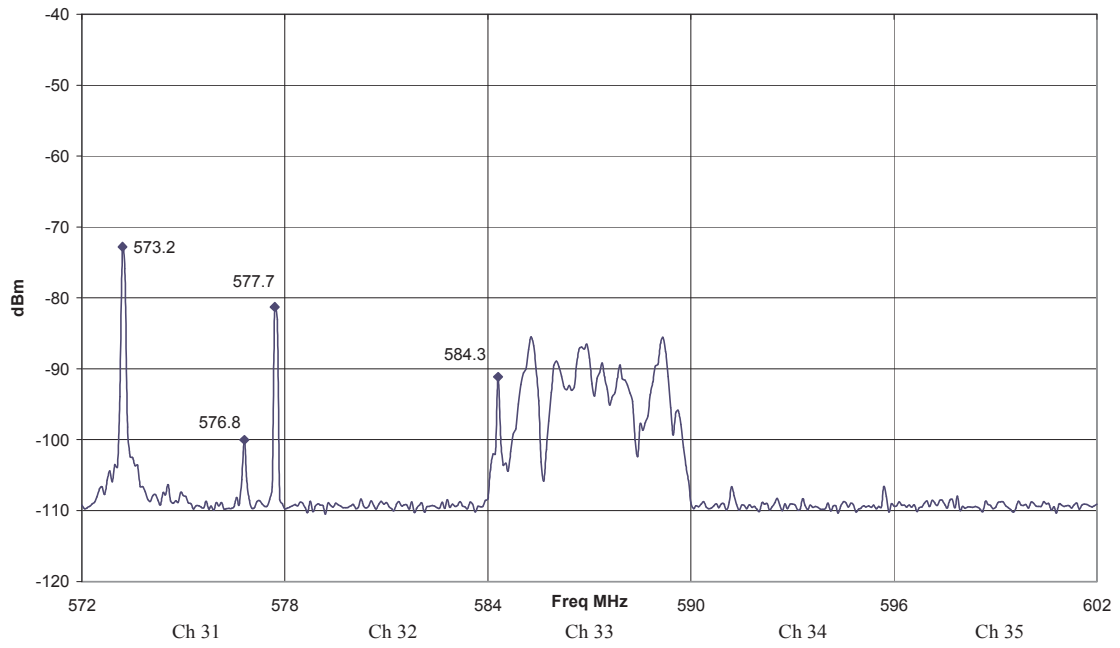


Figure F-19

Middle of Mezzanine  
Microphones On

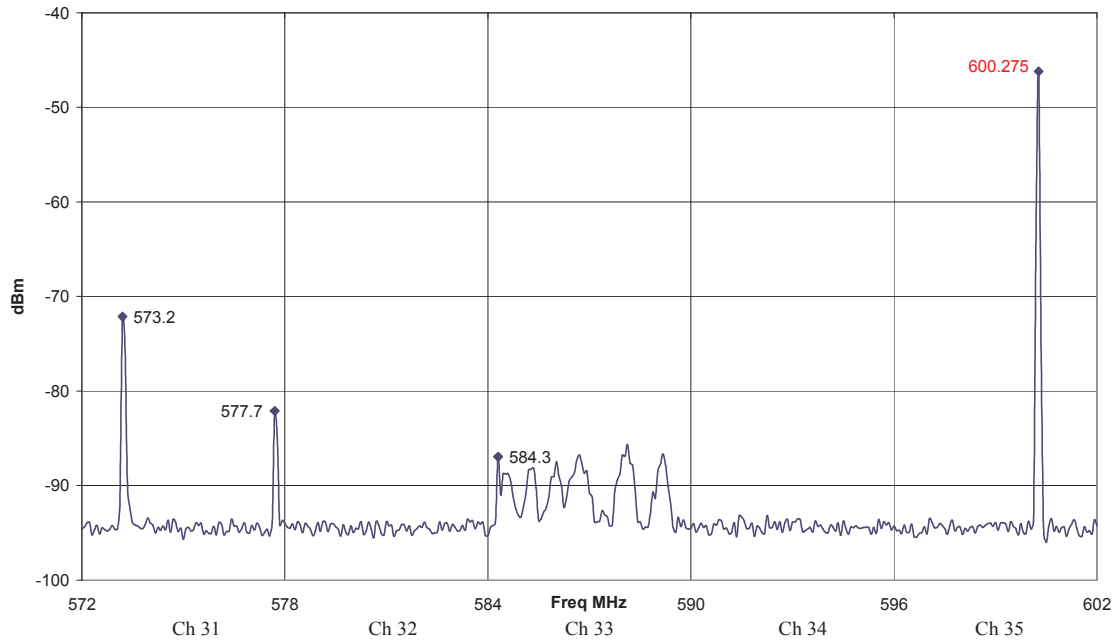


Figure F-20

Middle of Mezzanine  
Microphones Off

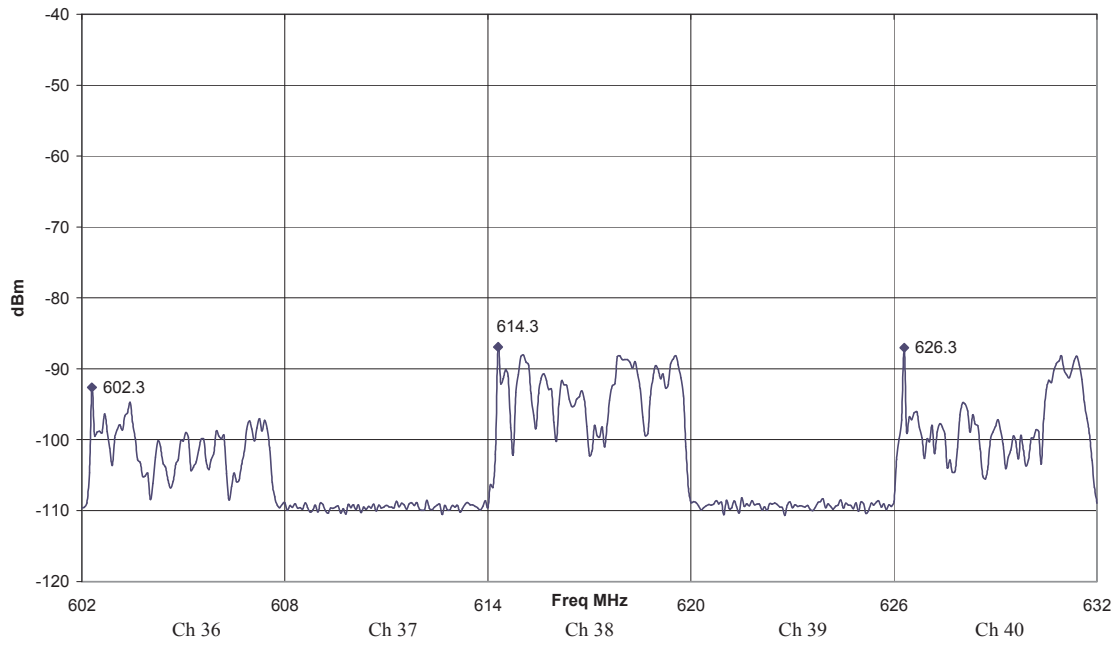


Figure F-21

Middle of Mezzanine  
Microphones On

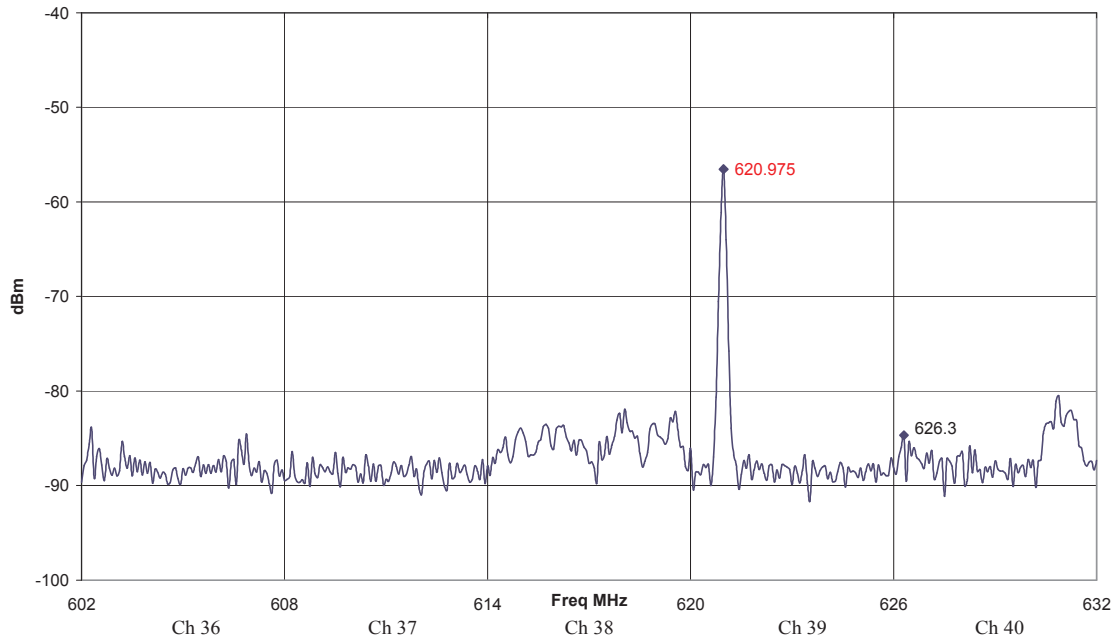


Figure F-22

Middle of Mezzanine  
Microphones Off

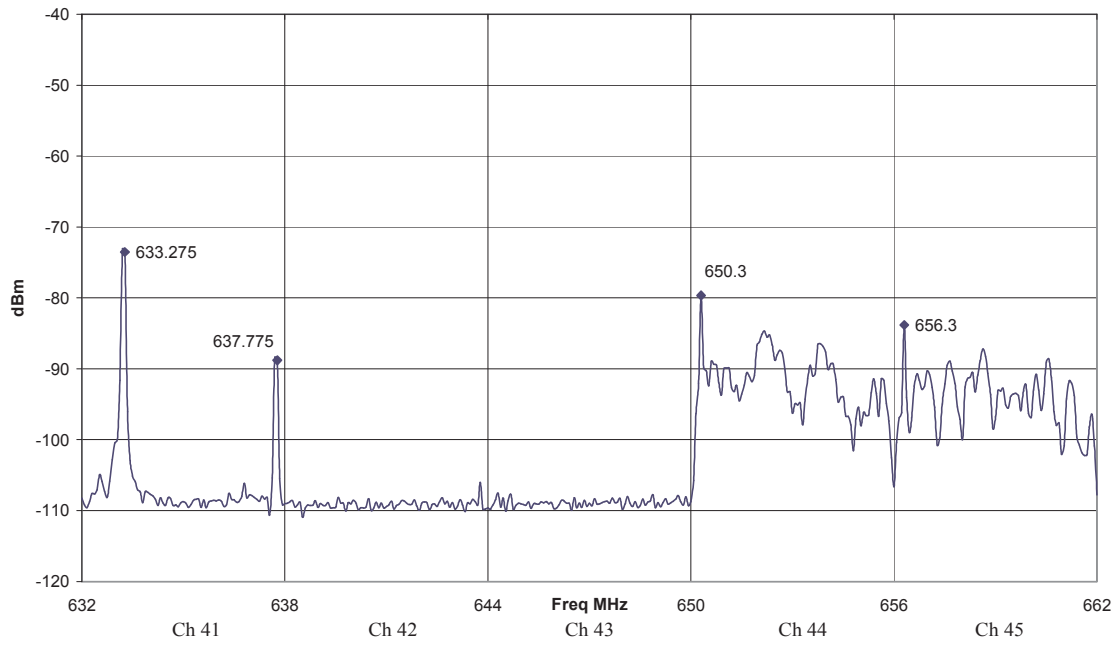


Figure F-23

Middle of Mezzanine  
Microphones On

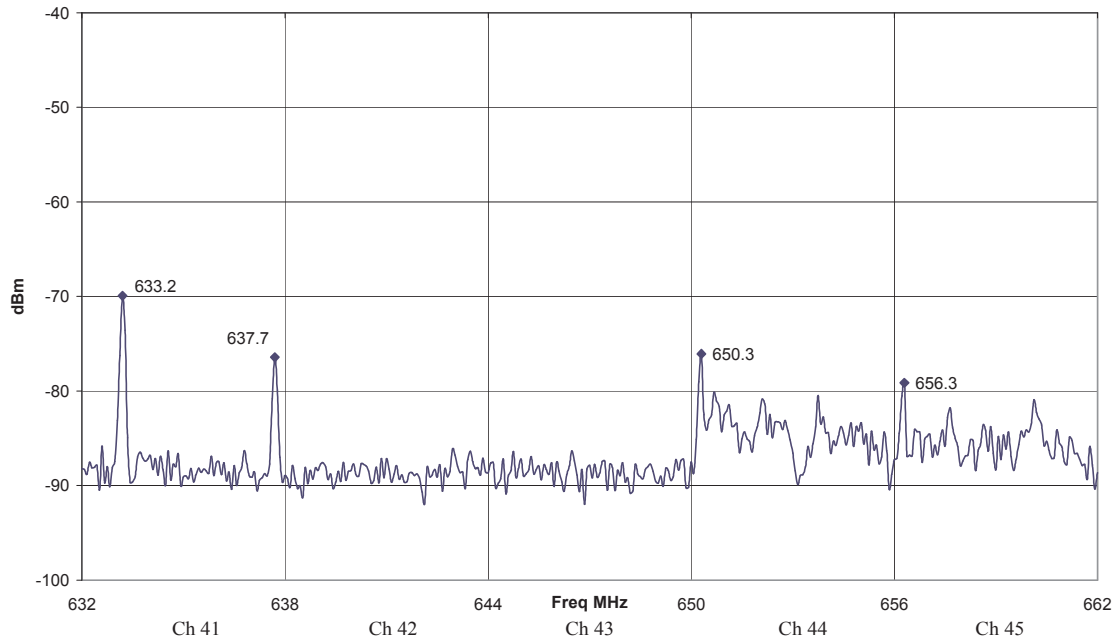


Figure F-24

Middle of Mezzanine  
Microphones Off

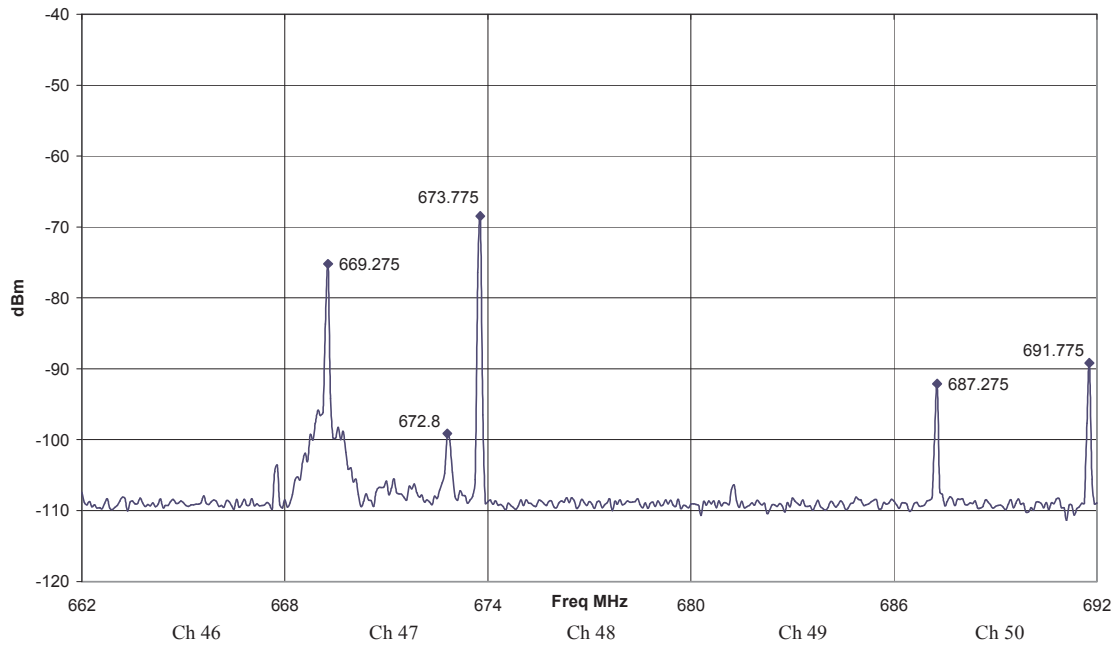


Figure F-25

Middle of Mezzanine  
Microphones On

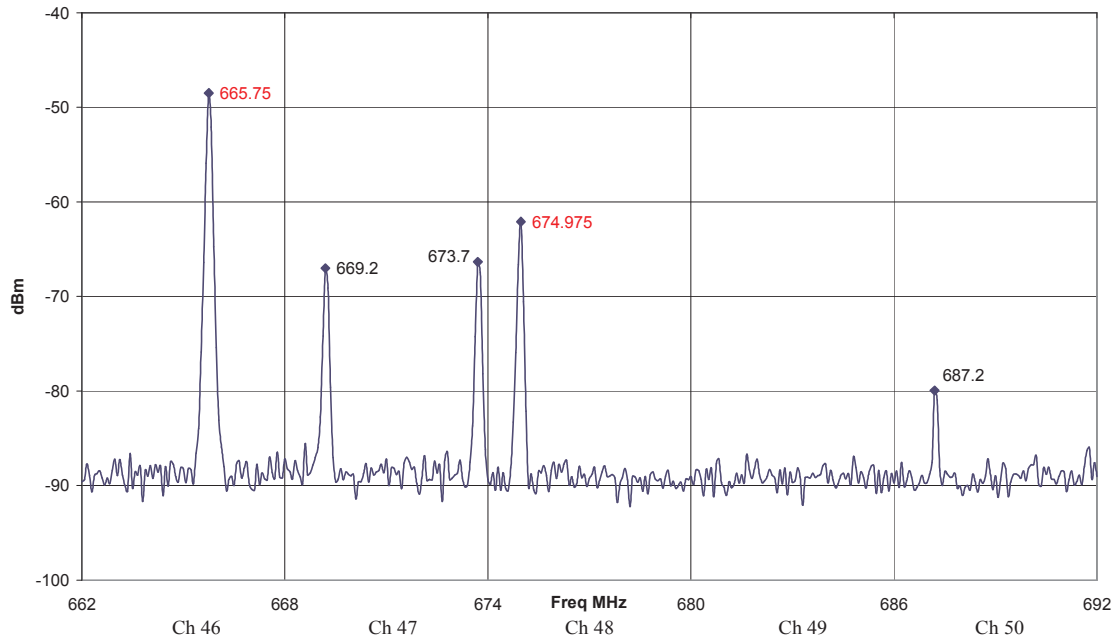


Figure F-26

Middle of Mezzanine  
Microphones Off

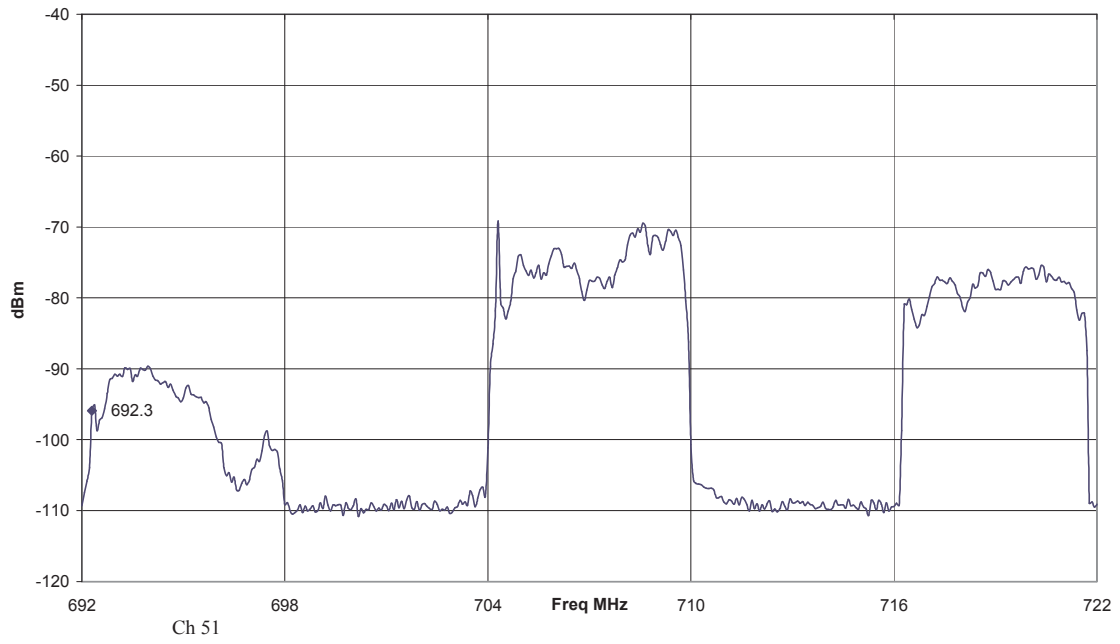


Figure F-27

Middle of Mezzanine  
Microphones On

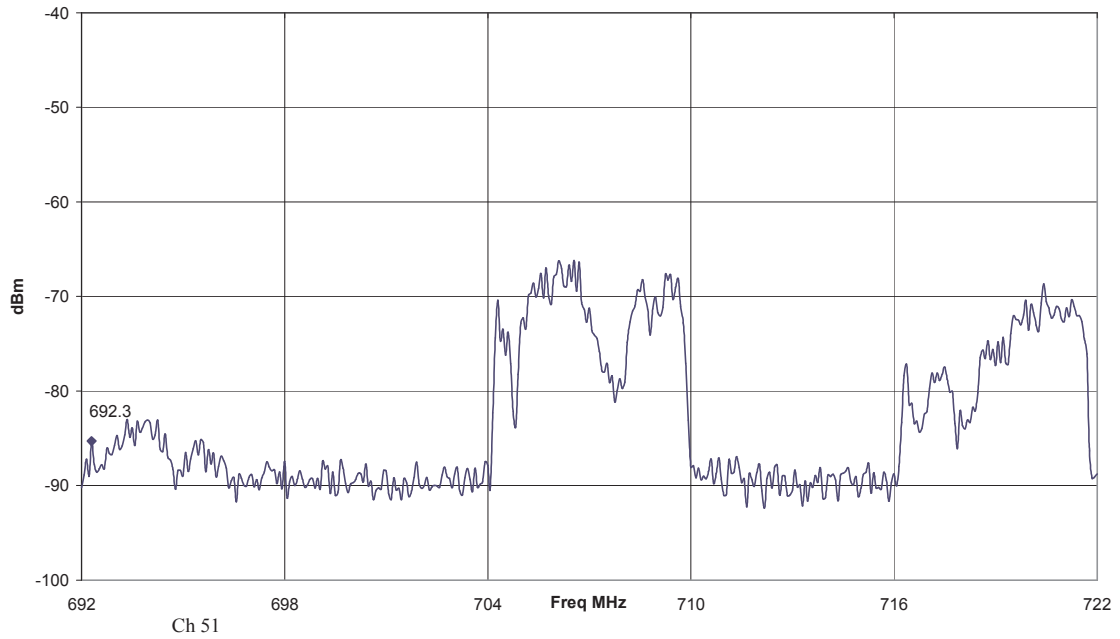
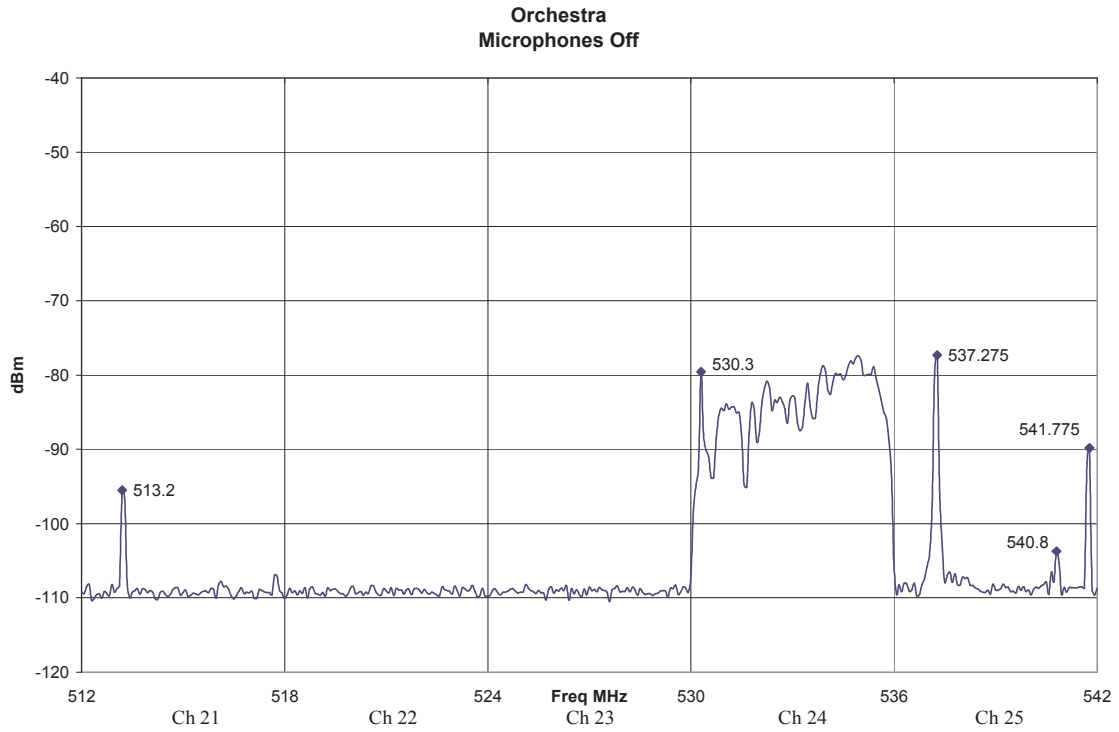
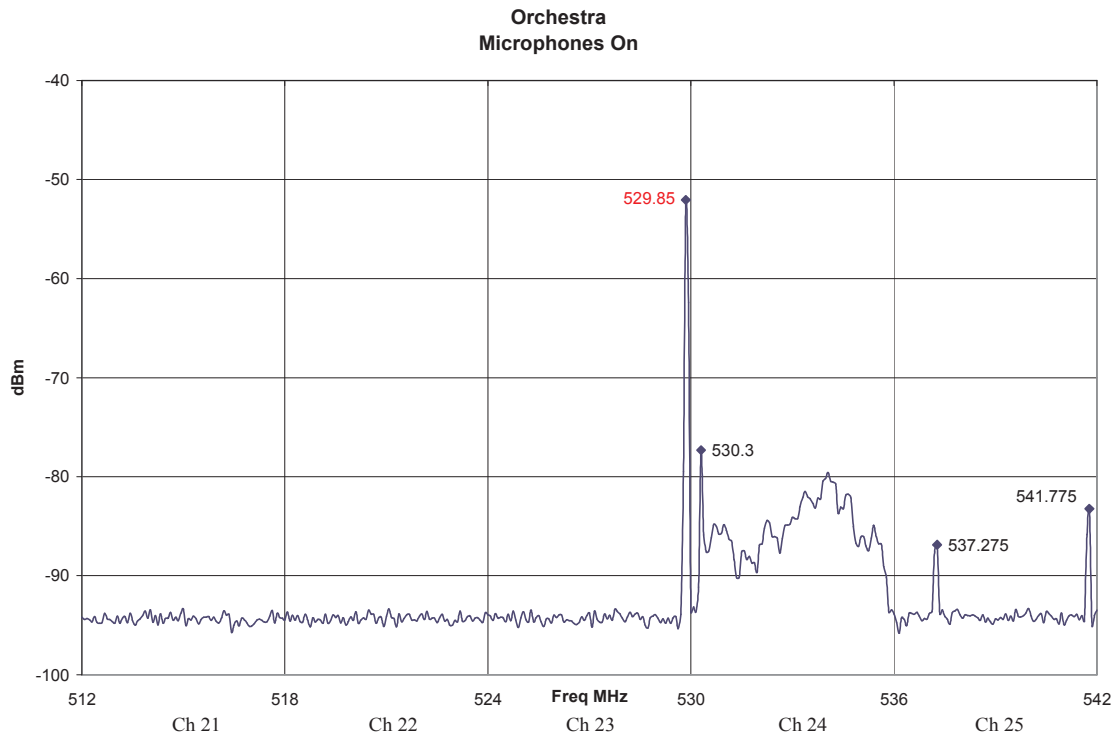


Figure F-28

### F.3 RF Spectrum Plots measured at the Orchestra—Row I, Stage Right

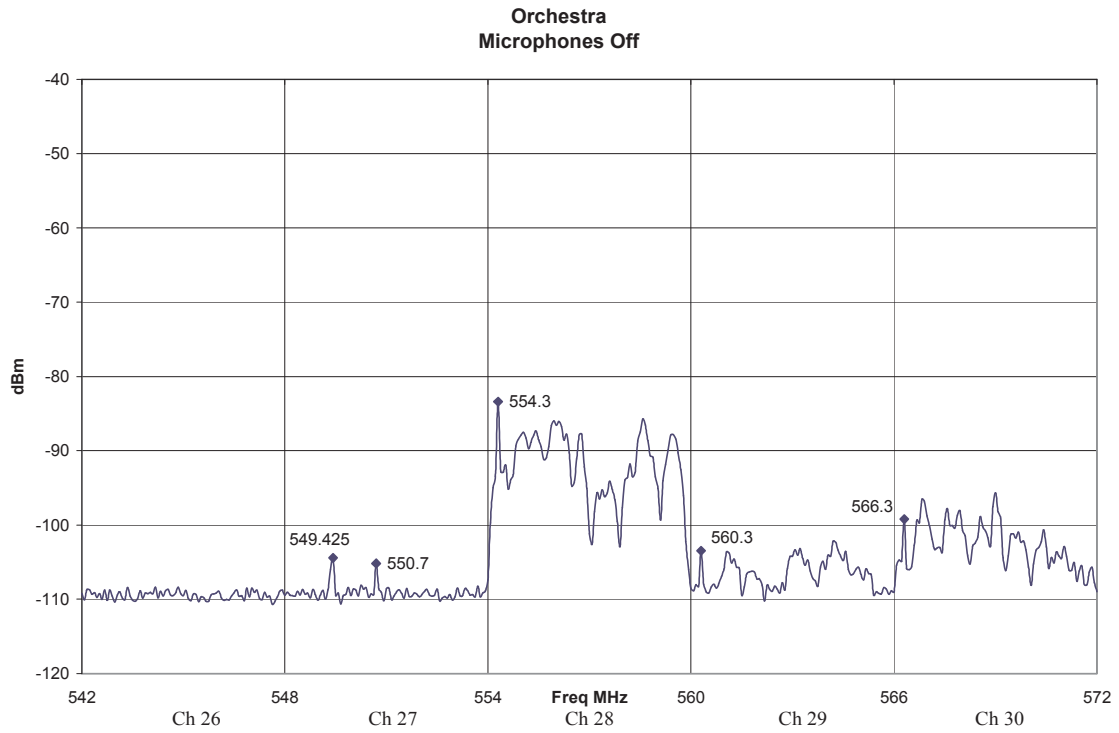


**Figure F-29**

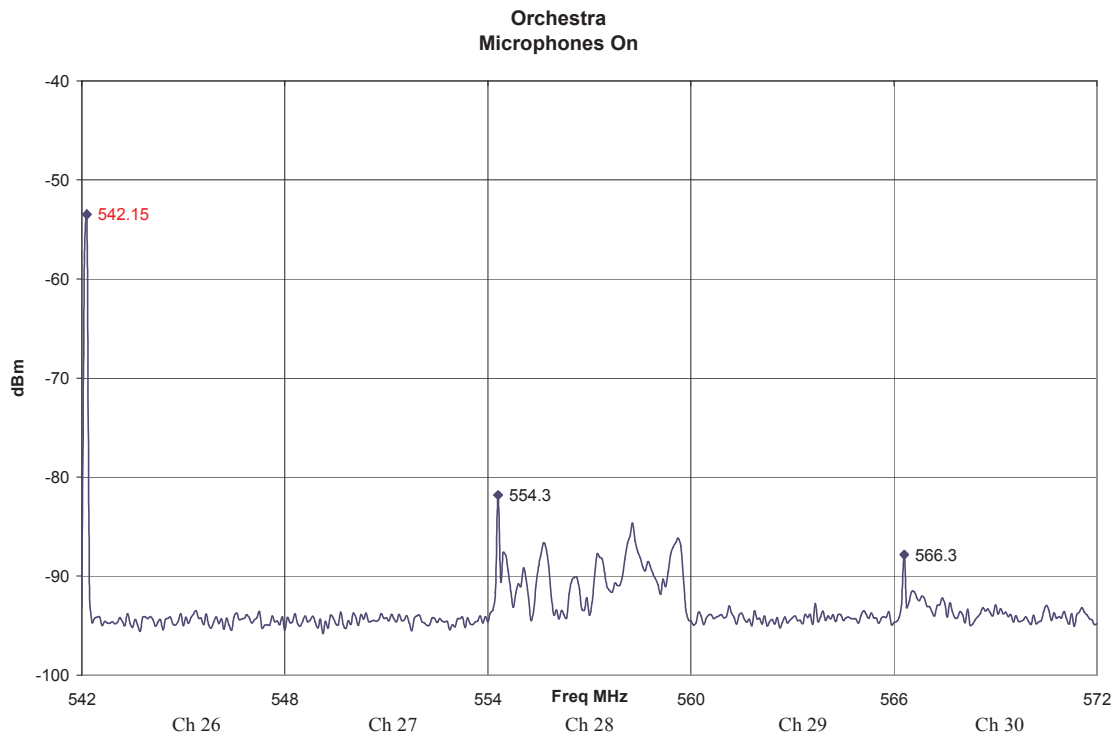


**Figure F-30**

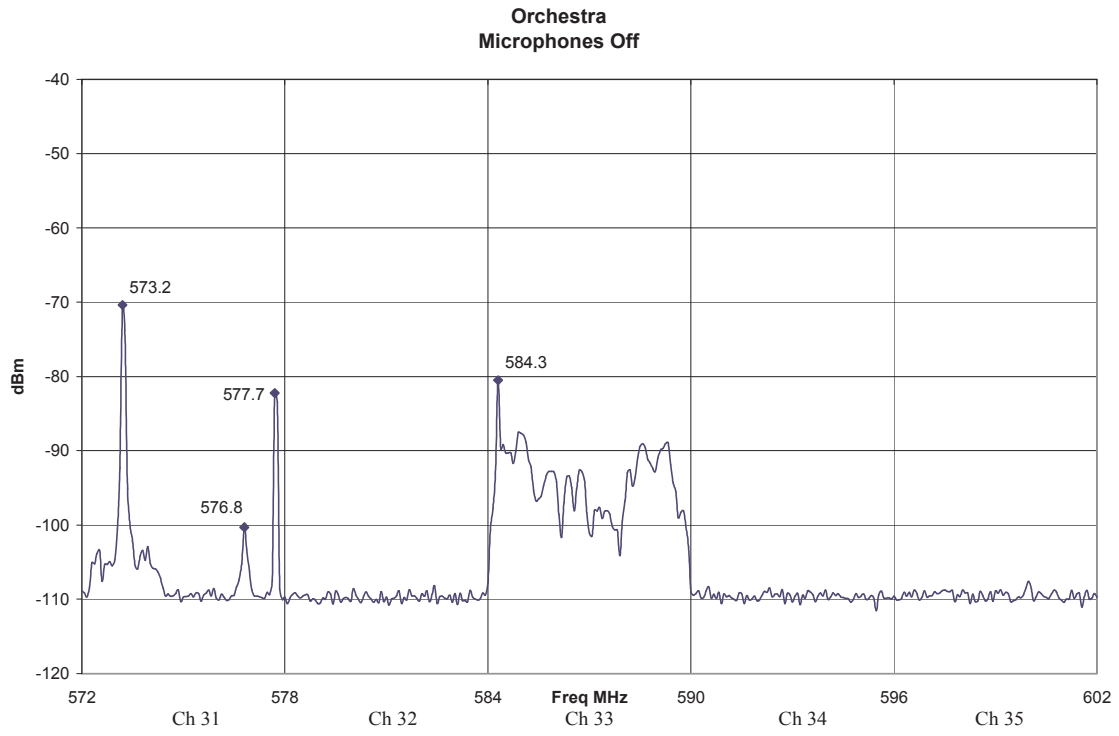




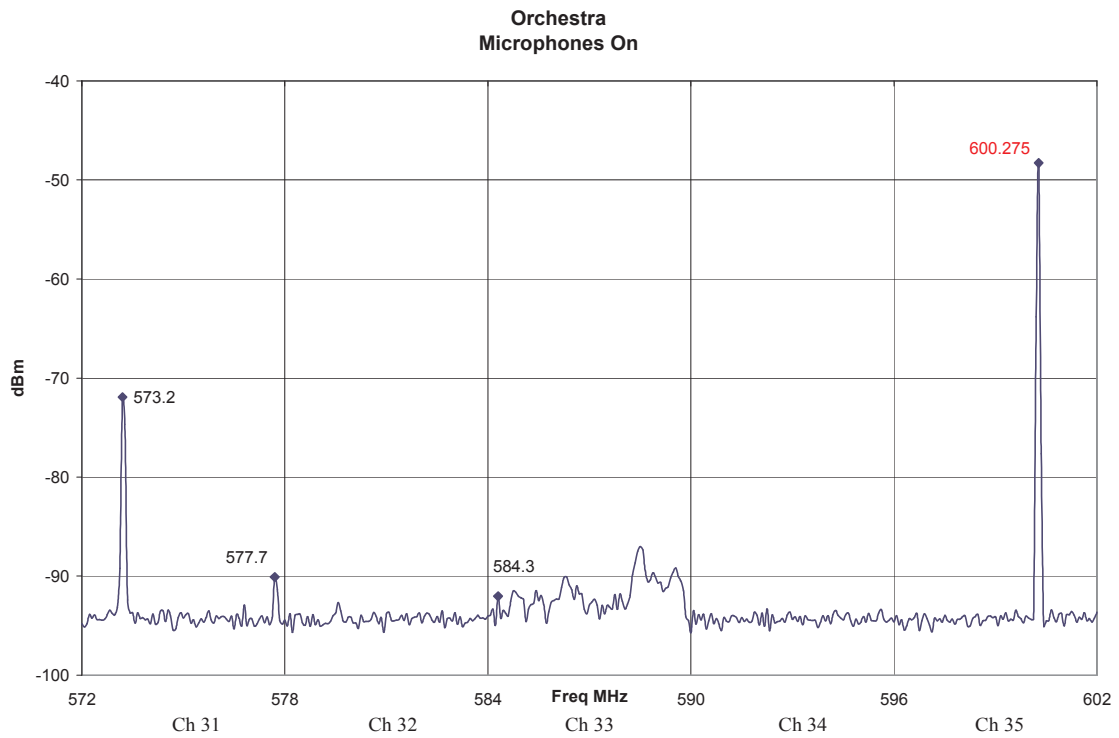
**Figure F-31**



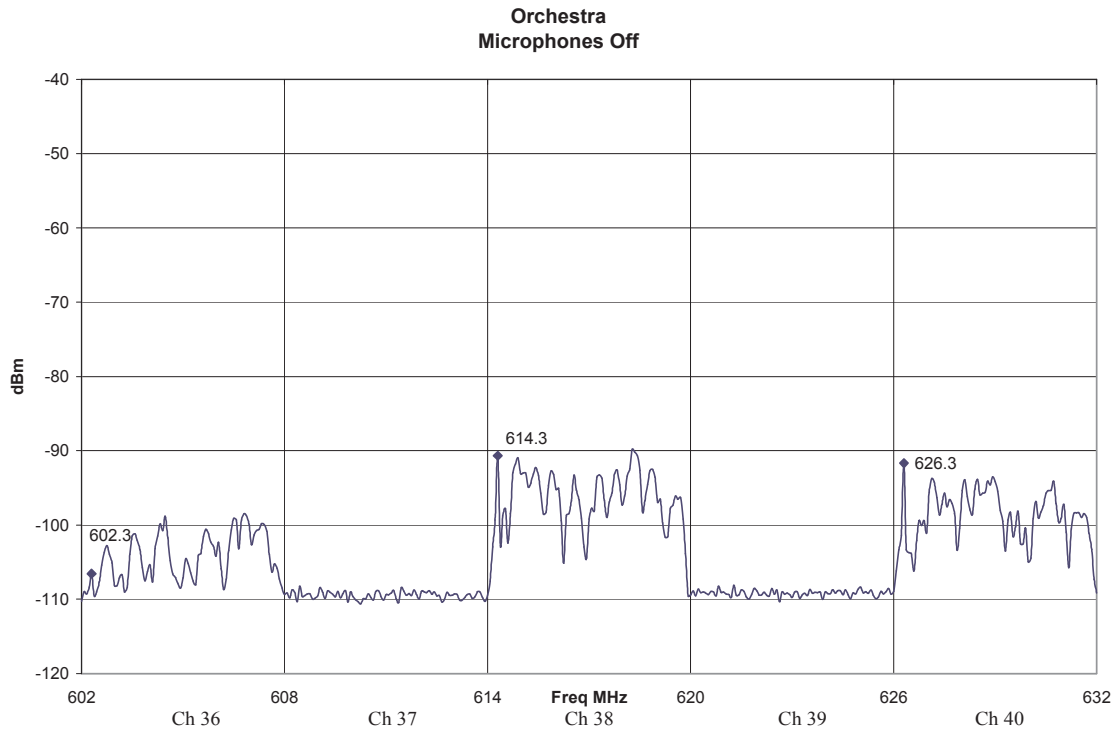
**Figure F-32**



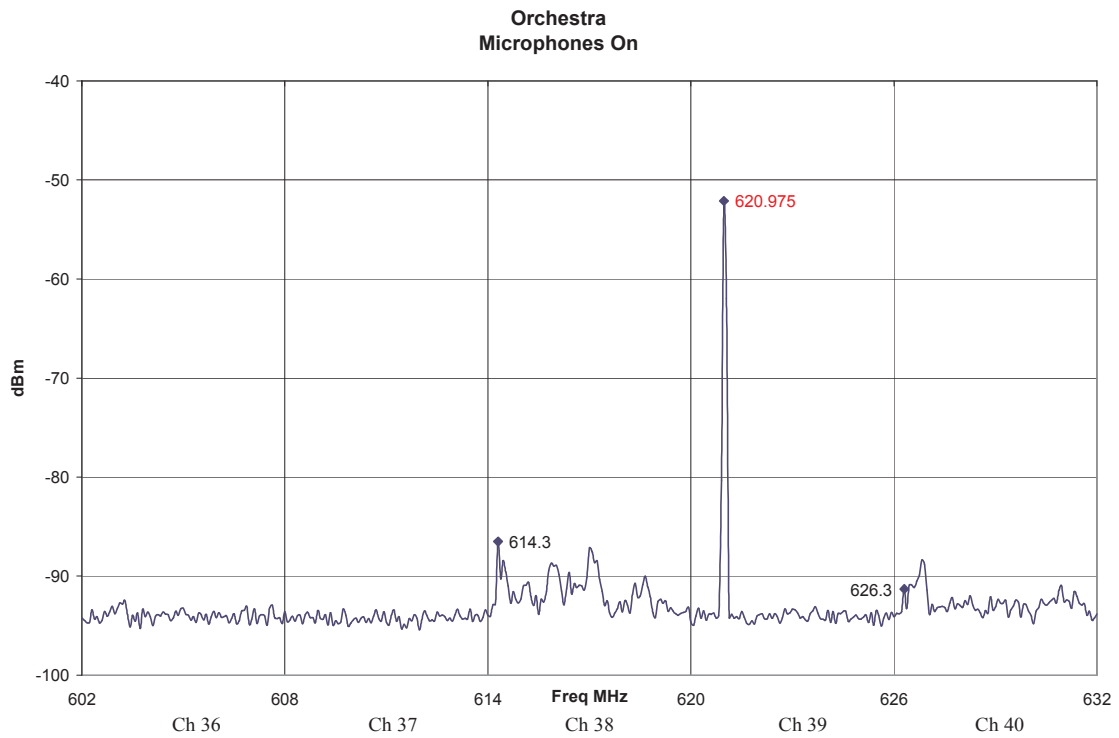
**Figure F-33**



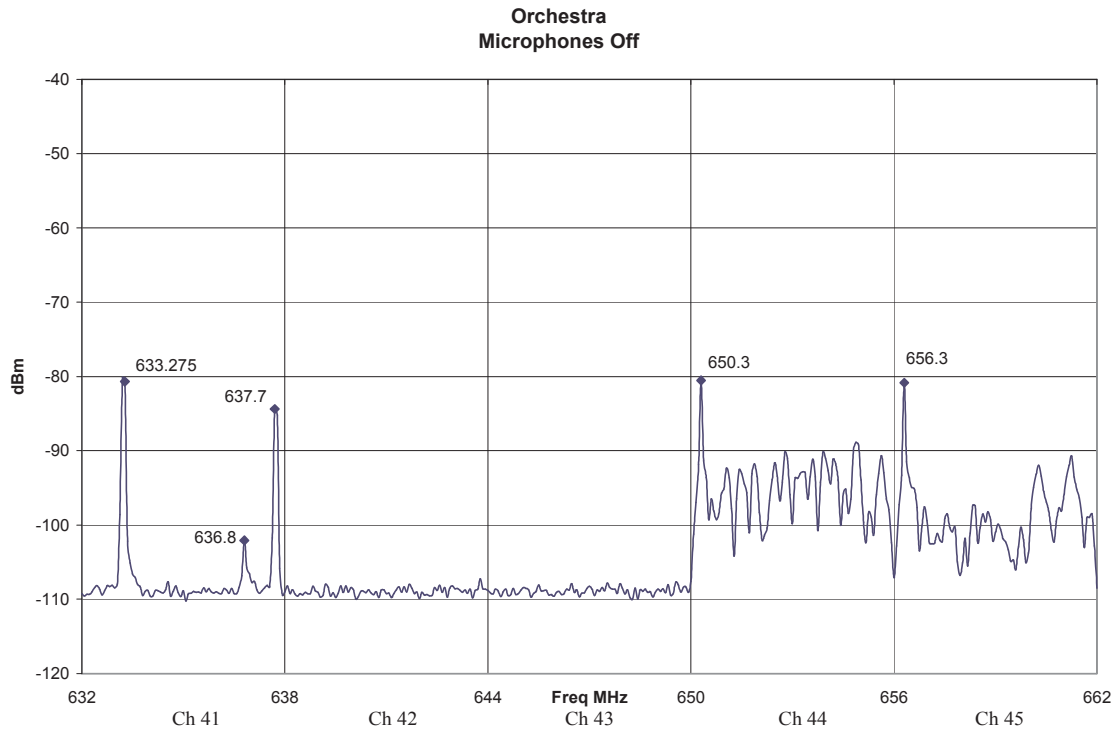
**Figure F-34**



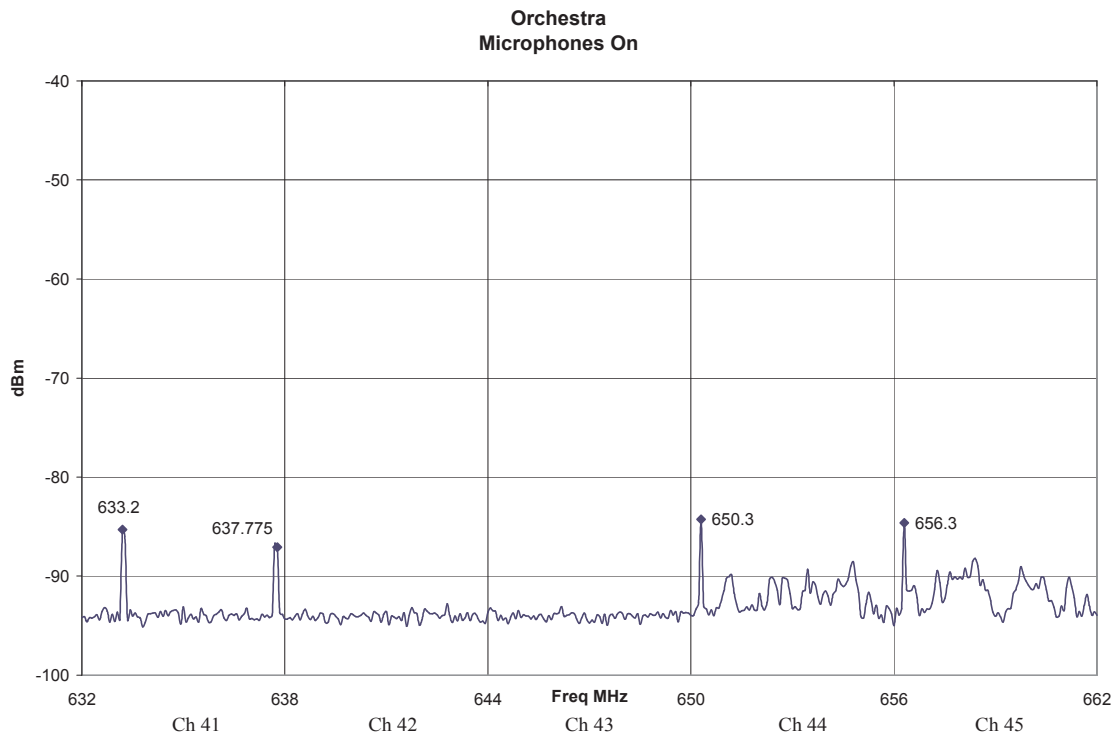
**Figure F-35**



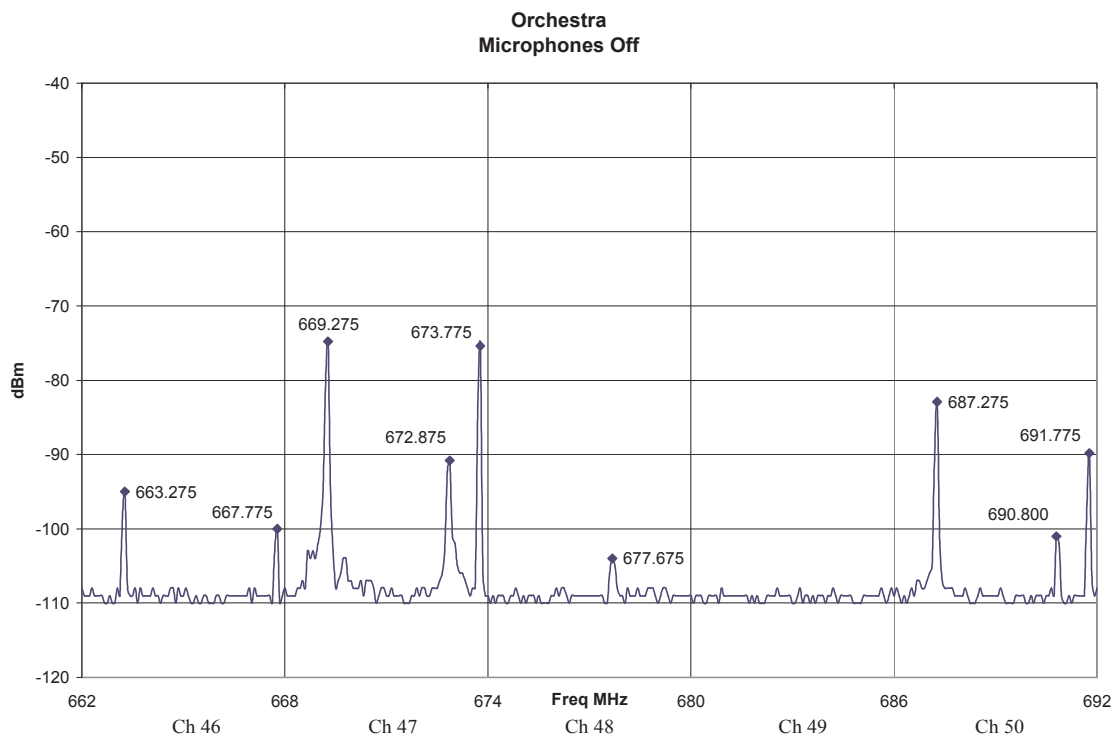
**Figure F-36**



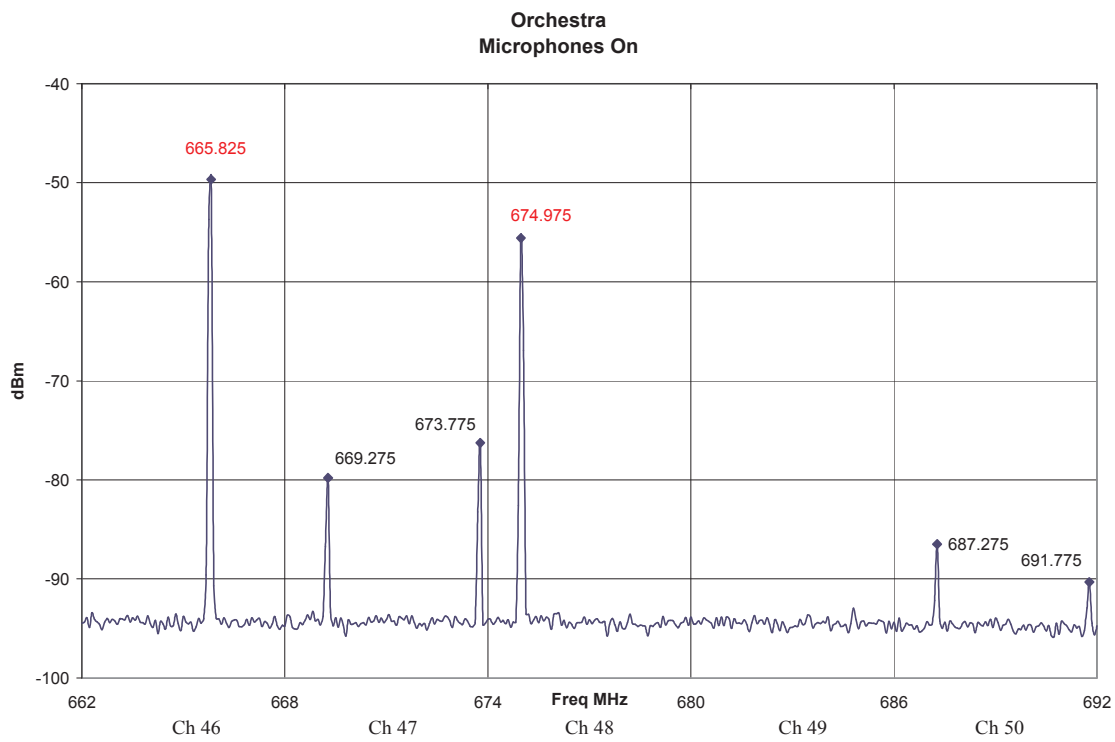
**Figure F-37**



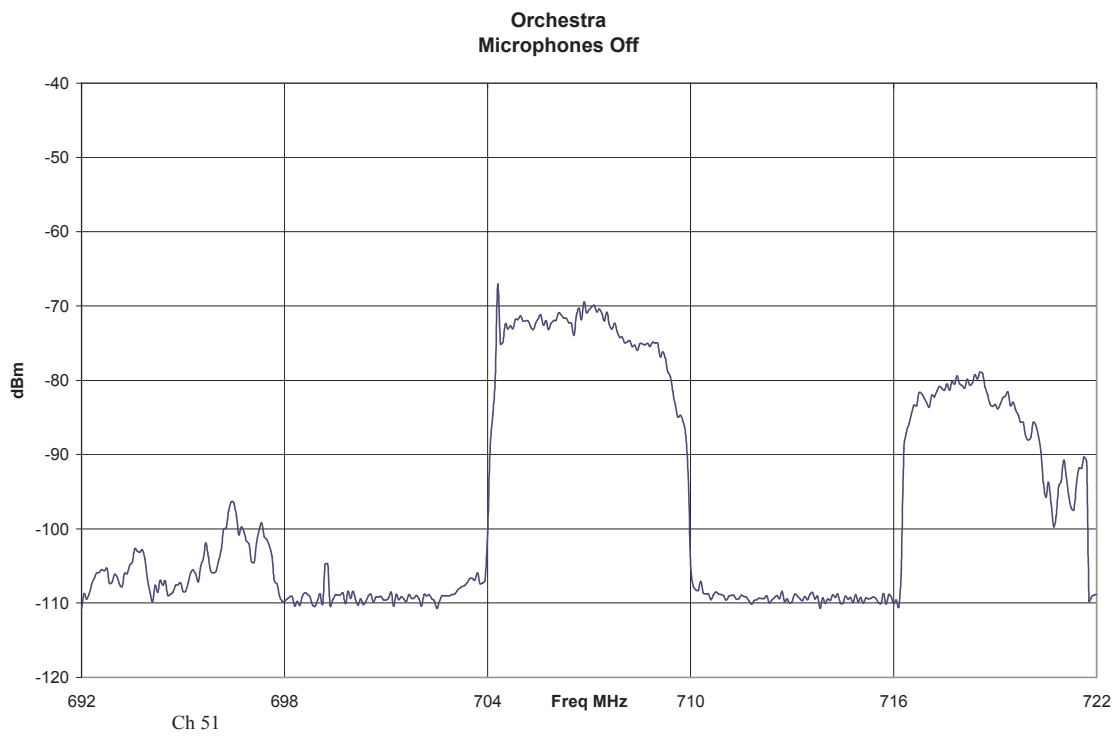
**Figure F-38**



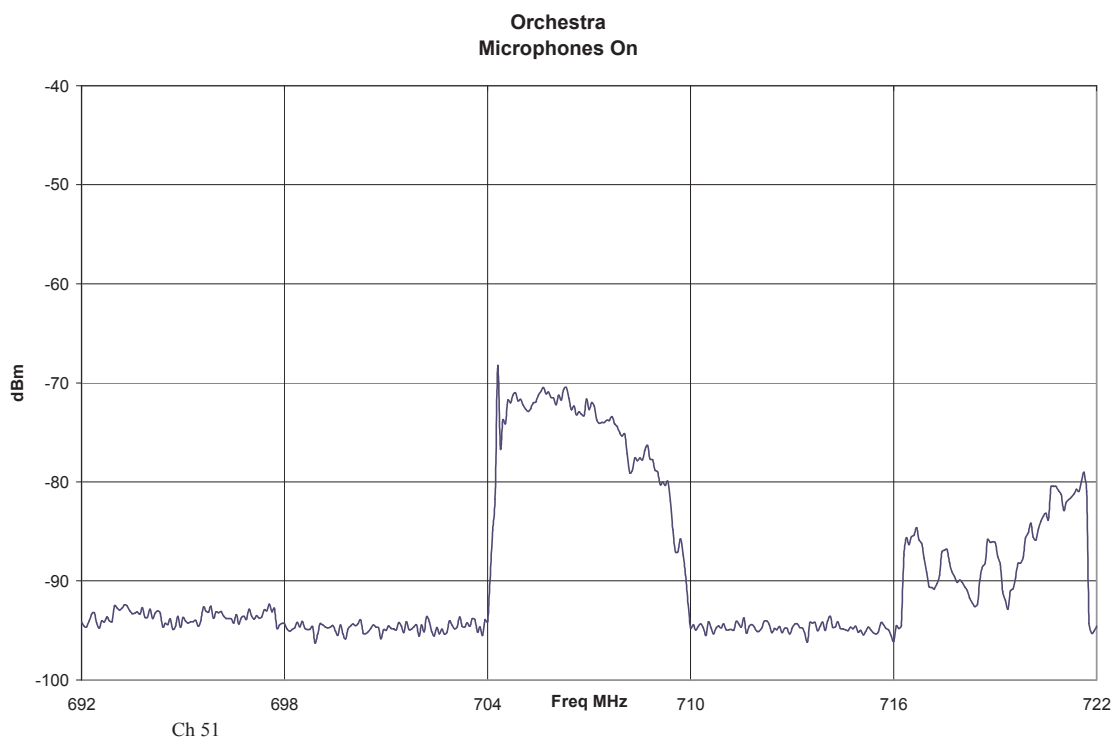
**Figure F-39**



**Figure F-40**

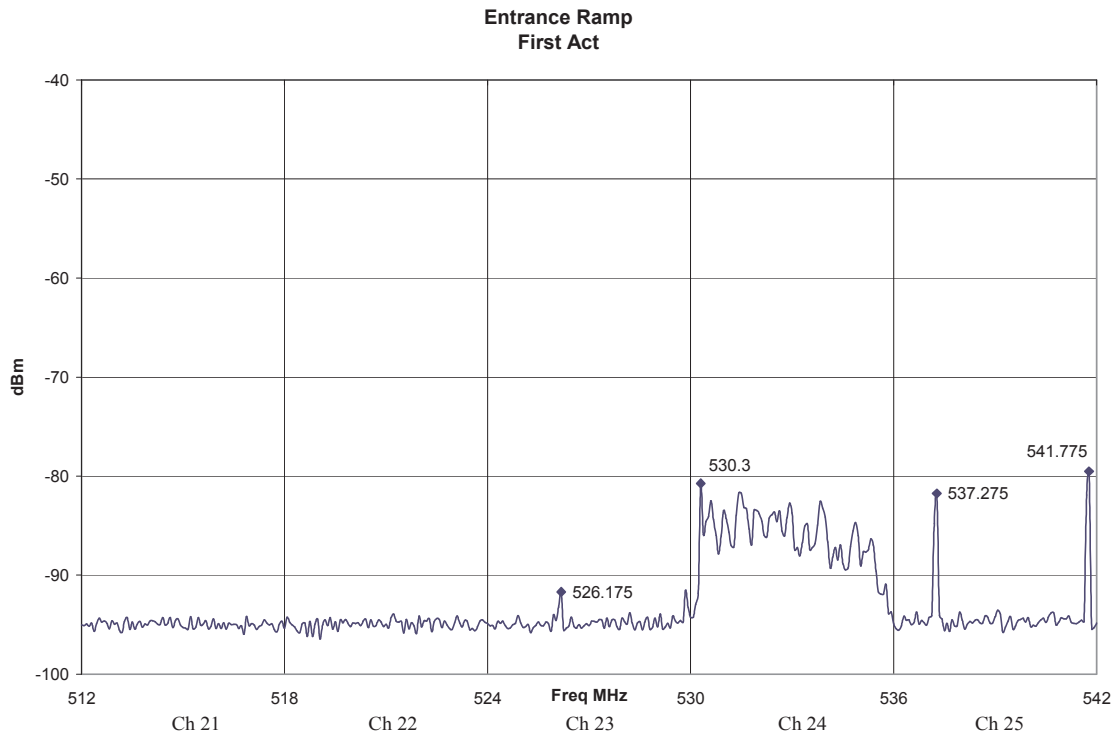


**Figure F-41**

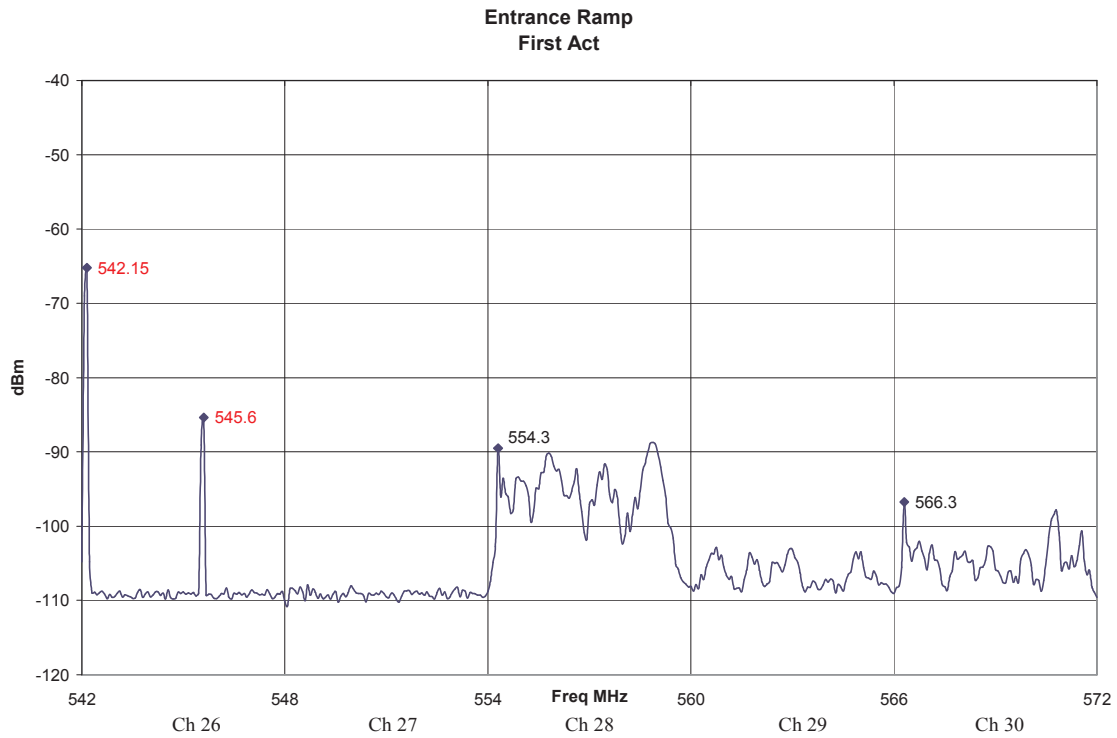


**Figure F-42**

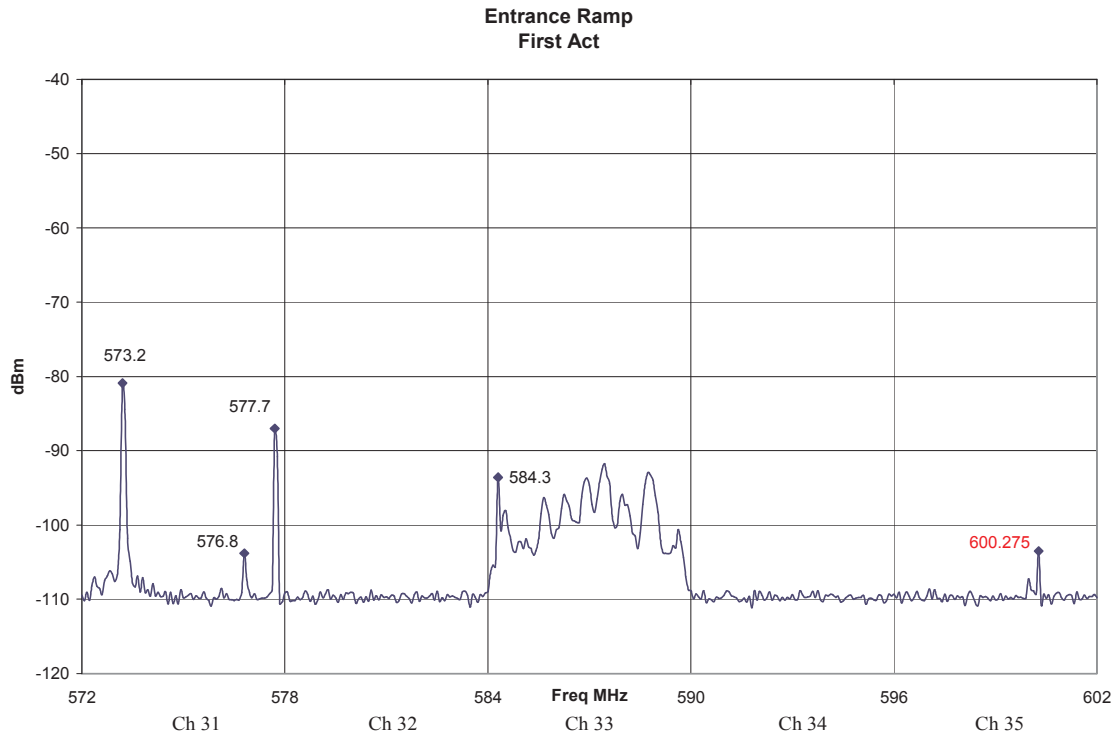
#### F.4 RF Spectrum measured at the Ramp to the Orchestra



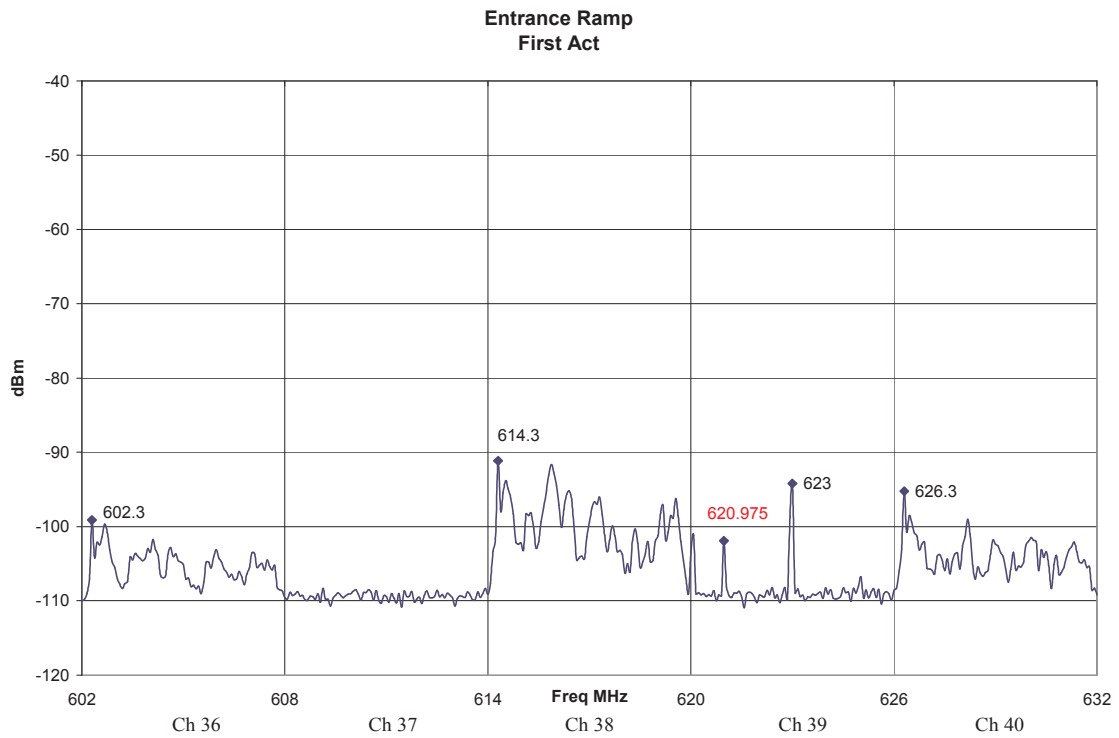
**Figure F-43**



**Figure F-44**

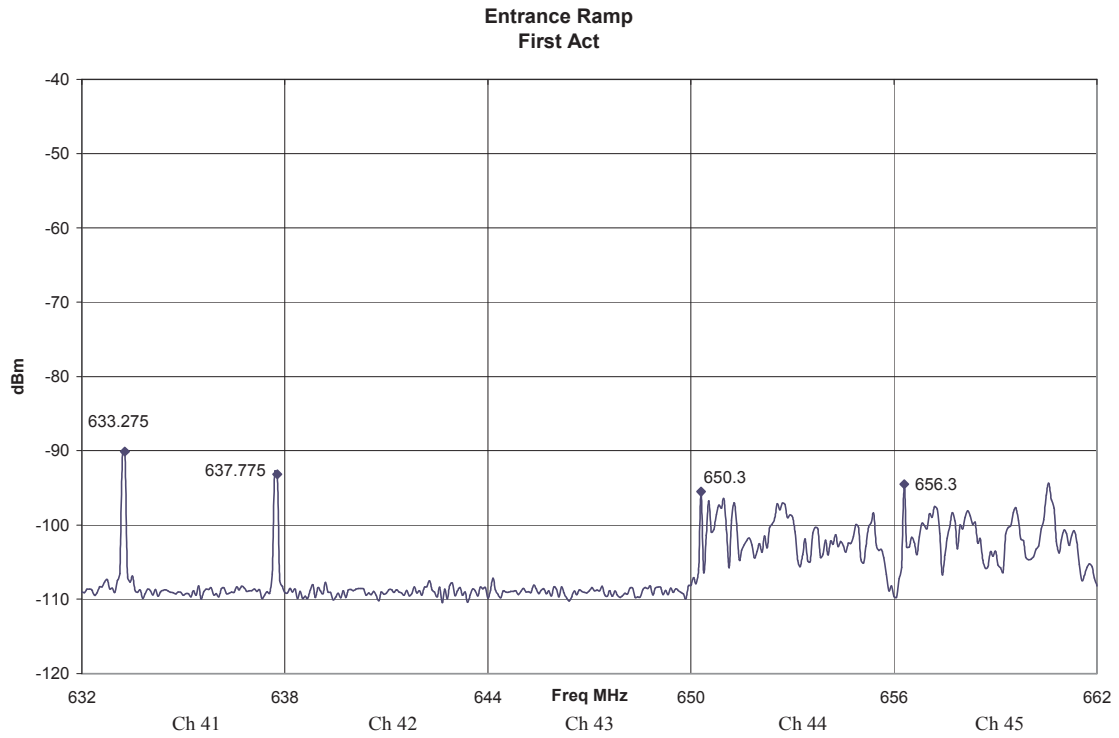


**Figure F-45**

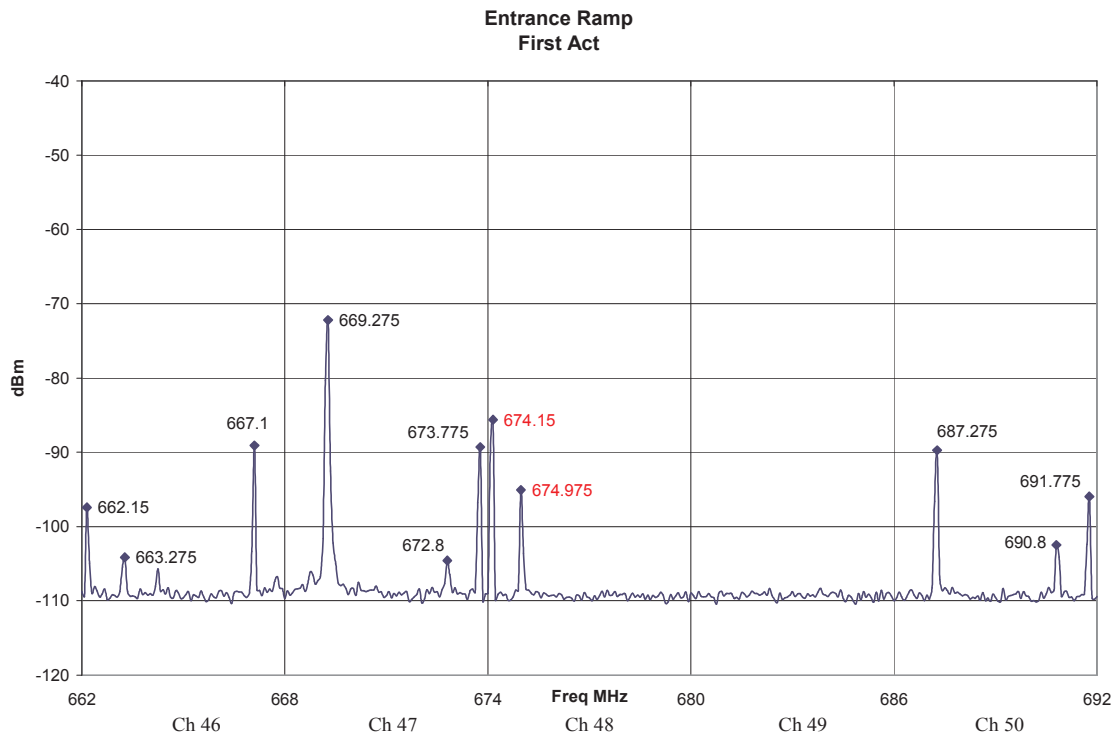


**Figure F-46**

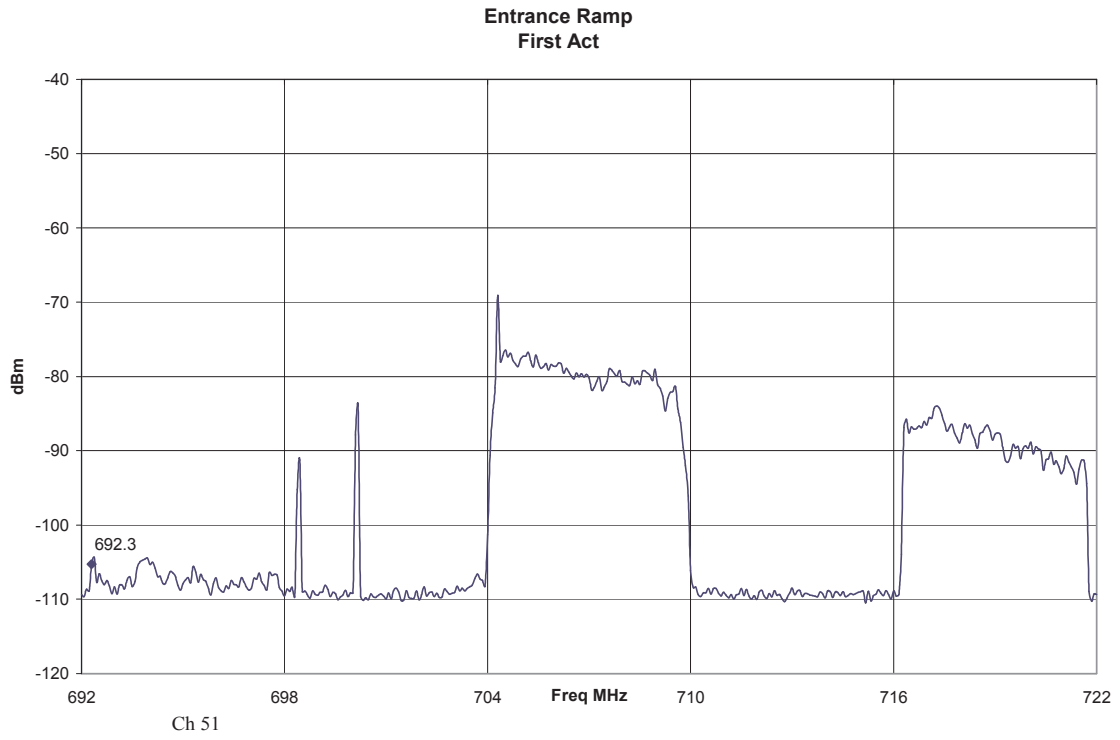




**Figure F-47**



**Figure F-48**



**Figure F-49**