

# Spectrum Emission Compliance

## K227CS

Tests were conducted to determine compliance with 47 C.F.R. §73.317(b) through §73.317(d) for K227CS, Kingman, AZ FAC# 152138 and K242AQ, Kingman, AZ FAC# 30449 sharing a common transmit antenna using a transmit combiner.

## Method Used for Gathering Data

Signals were measured with a transmitter for each station connected to the proper port of a Telewave Combiner designated for each proper operating frequency. A Bird Wattmeter model 43, serial number 213142 was connected directly between the antenna port of the combiner and the antenna feed line for the antenna system. A Bird 50 dB sample port element (-50db 25MHz to 1000MHz) was used for obtaining a test signal for making measurements.

The measurement data were gathered using an Anritsu model MS2713E Spectrum Analyzer, serial number 09388127.

## K227CS 93.3 MHz

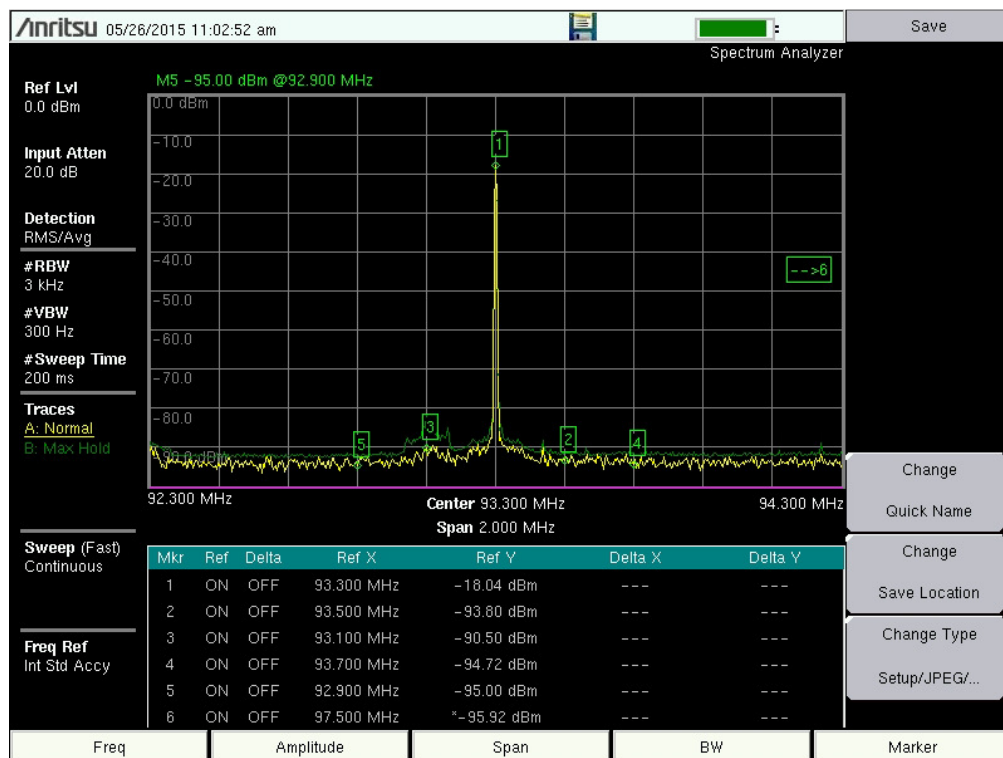
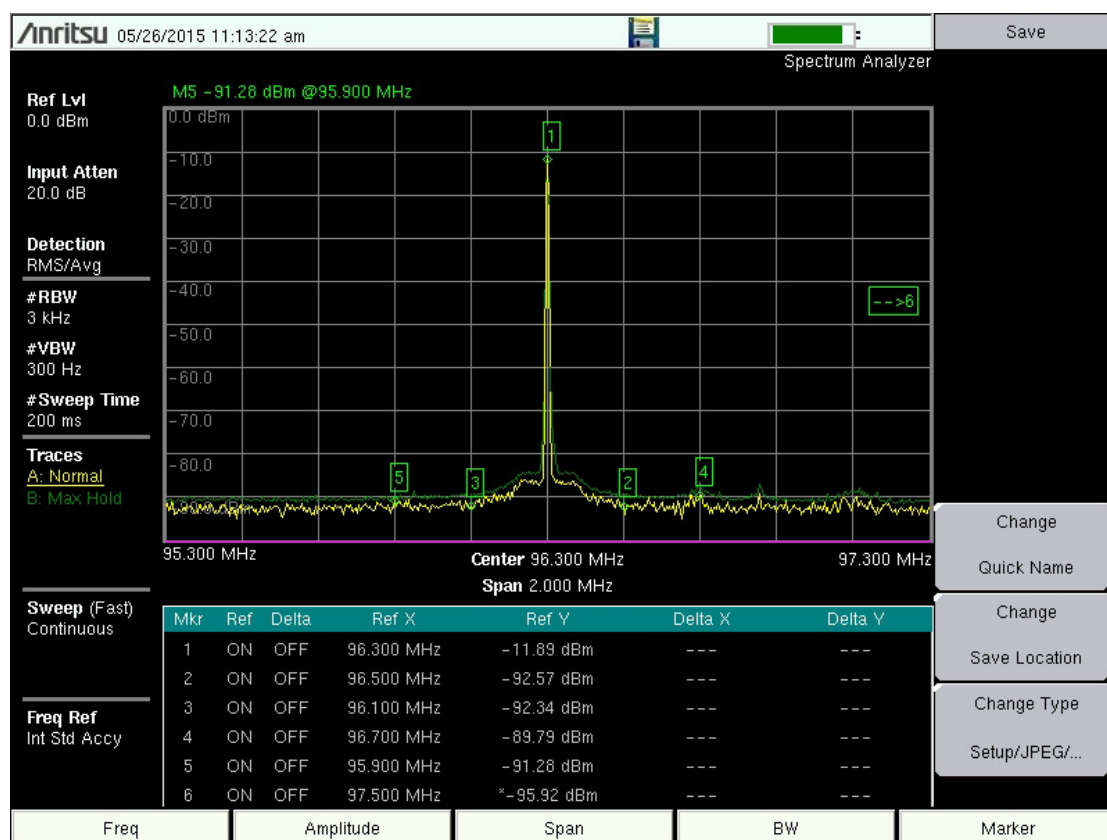


Figure 1 93.3MHz K227CS

According to 47 C.F.R. 73.317(d) the limits for emissions more than 600 KHz from the assigned carrier frequency is equal to “43 + 10 Log 10 (Power, in watts) dB below the level of the unmodulated carrier, or 80 dB, whichever is the lesser attenuation.” Therefore the limit is 43 +10 Log 1.8 (1.8 Watts) = 43 + 2.56 = 45.6 dB below the unmodulated reference carrier.

Refer to Figure 1 above.

## K242AQ 96.3 MHz



**Figure 2 96.3 MHz K242AQ**

According to 47 C.F.R. 73.317(d) the limits for emissions more than 600 KHz from the assigned carrier frequency is equal to “43 + 10 Log10 (Power, in watts) dB below the level of the unmodulated carrier, or 80 dB, whichever is the lesser attenuation.” Therefore the limit is 43 +10 Log 6.7 (6.7 Watts) = 43 + 8.3 = 51.3 dB below the unmodulated reference carrier.

Refer to Figure 2 above.

## Conclusion

Per §73.317, measurements were made for any spurious emissions at between 120 kHz and 240 kHz either side of the stations operating frequency. Further measurements were made at between 240 kHz and 600 kHz either side of the carrier frequency. These measurements were conducted with no modulation present; and no spurious emissions were noted. Measurements were then made at the second and third harmonic frequencies of the described stations operating frequency. Again, no spurious signals were present. A close scan of Aviation spectrum between 118 MHz & 136 MHz also showed no signs of spurious emissions. A scan of the spectrum, up to and including 500 MHz, was made to look for any other spurious emissions from the K227CS & K242AQ combined transmission system; and none could be found. According to all measurements observed, including but not limited to that presented herein, K227CS & K242AQ are in full compliance with all FCC requirements of 47 C.F.R. §73.317(b) through §73.317(d).



Faron Eckelbarger

Broadcast Engineer  
Arizona Broadcast Engineering Services  
3110 Crater Dr.  
Lake Havasu City, AZ 86404