



## FM Spurious Emissions

Prepared for :  
KBYZ 96.5 MHz  
KUSB 103.3 MHz  
Cumulus Broadcasting

Bismarck, ND

9/06/06

**EXHIBIT B**  
**APPLICATION FOR STATION LICENSE**  
**CUMULUS LICENSING LLC**  
**KUSB RADIO STATION**  
**CH 277C1 - 103.3 MHZ - 100.0 KW**  
**HAZELTON, NORTH DAKOTA**  
**September 2006**

Data was taken using an Agilent E4408B ESA-L Series Spectrum Analyzer.

Measurements were taken from the output coupler between the Dielectric combiner/filter and Dielectric 4" FlexLine transmission line.

Base measurements were taken to reference the peak value of the transmitting stations.

Then two FM notch filters were placed between the coupler and test cable to eliminate mixing in the test equipment.

Filters were tuned on site with an Agilent 8753E Network Analyzer

At the time of test transmitters were operating at a TPO of:

KBYZ 24.2kW

KUSB 24.5kW.

The measurements support C.F.R. sections 73.317(b) – 73.317(d) Compliance

120kHz – 240 kHz > 40 dB Below level of the unmodulated carrier

240kHz – 600 kHz > 50 dB Below level of the unmodulated carrier

Greater than 600 kHz Measurements show a signal to spur ratio of -86.61 dB.  
FCC requires 80.0dB

All measurements were completed by Daniel Barton, BSEE of Alive  
Telecommunications

*Daniel Barton*      9/7/06



Freq A

Freq B

KBYZ-FM

9/7/2006

96.5

103.3

Bismark, ND

IntMod

Freq MHz

Level(dBc)

A+B	199.8	-90.59
B-A	6.8	-88.64
2A	193	-86.61
2B	206.6	-90.56
2A-B	89.7	-88.96
2B-A	110.1	-89.5
2A+B	296.3	-90.54
2B+A	303.1	-90.71
2A+2B	399.6	-90.2
2B-2A	13.6	-90.95
3A	289.5	-90.07
3B	309.9	-89.32
3A-B	186.2	-91.12
3A+B	392.8	-89.3
3B+A	406.4	-91.01
3B-A	213.4	-89.86
3A+2B	496.1	-90.73
3A-2B	82.9	-87.57
3B+2A	502.9	-89.23
3B-2A	116.9	-90.83
3B+3A	599.4	-90.49
3B-3A	20.4	-90.07