

TECHNICAL STATEMENT  
IN SUPPORT OF REQUEST FOR EXPERIMENTAL AUTHORIZATION  
FOR ASYMMETRICAL SIDEBAND OPERATION  
-14 DBC/-10 DBC LSB/USB DIGITAL POWER  
FM BROADCAST STATION KAZI  
AUSTIN, TEXAS  
CHANNEL 204A (88.7 MHZ)

This Technical Statement was prepared on behalf of FM Broadcast Station KAZI, Austin, Texas, in support of a request for Experimental Authorization for asymmetrical sideband operation. The request is to authorize testing with -14 dBc, lower sideband (LSB), and -10 dBc, upper sideband (USB), digital IBOC emissions. KAZI does not currently have a digital IBOC authorization.

1. The applicant requests experimental authorization for -14 dBc/-10 dBc LSB/USB digital power using MP1 mode of the Iboquity IBOC standard. Figure 1 is a tabulation of all the first-adjacent channel stations on channels 203 (88.5 MHz) and 205 (MHz) located within 200 km of KAZI that were considered in the analysis. Specifically, as demonstrated at Figure 1 herein, the KAZI facility meets the contour overlap requirements based on -10 dBc operation for protection of stations affected by the USB on Channel 205 but not the LSB on channel 203.<sup>1</sup>

2. The engineering contact information for KAZI is as follows:

Denver O'Neal  
RF Systems Engineer  
4020 Manchaca Road  
Austin, Texas 78704  
Office: 512-829-4680 ext. 101  
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<sup>1</sup> See FCC *Order*, MM Docket 99-325, Released: January 29, 2010, at para. 20.

3. The station proposes asymmetrical digital IBOC operation with common amplification using its main transmitting antenna. The antenna will operate with a digital effective radiated power (ERP) of 0.034 kW (LSB) and 0.084 kW (USB).

4. Use of MP1 service mode and -14 dBc/-10 dBc LSB/USB asymmetric digital sideband power levels are to be employed.

5. According to the *National Radio Systems Committee, NRSC-G202, 'FM IBOC Total Digital Sideband Power for Various Configurations,'* the total integrated power for -14 dBc/-10 dBc asymmetrical side-band operation in service mode MP1 is -11.6 dBc, which is equivalent to total integrated digital power of 0.118 kW. The proposed total digital transmitter power output (TPO) is 0.068 kW. Considering all system losses and antenna gain, the nominal non-directional total integrated digital ERP is calculated to be 0.118 kW. The analog TPO is 0.986 kW, which results in a nominal analog ERP of 1.7 kW.

6. The applicant certifies that the proposed digital operation will comply with the latest transmission system specifications of the Iiquity HD Radio System.



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# FM Inquiry LMS

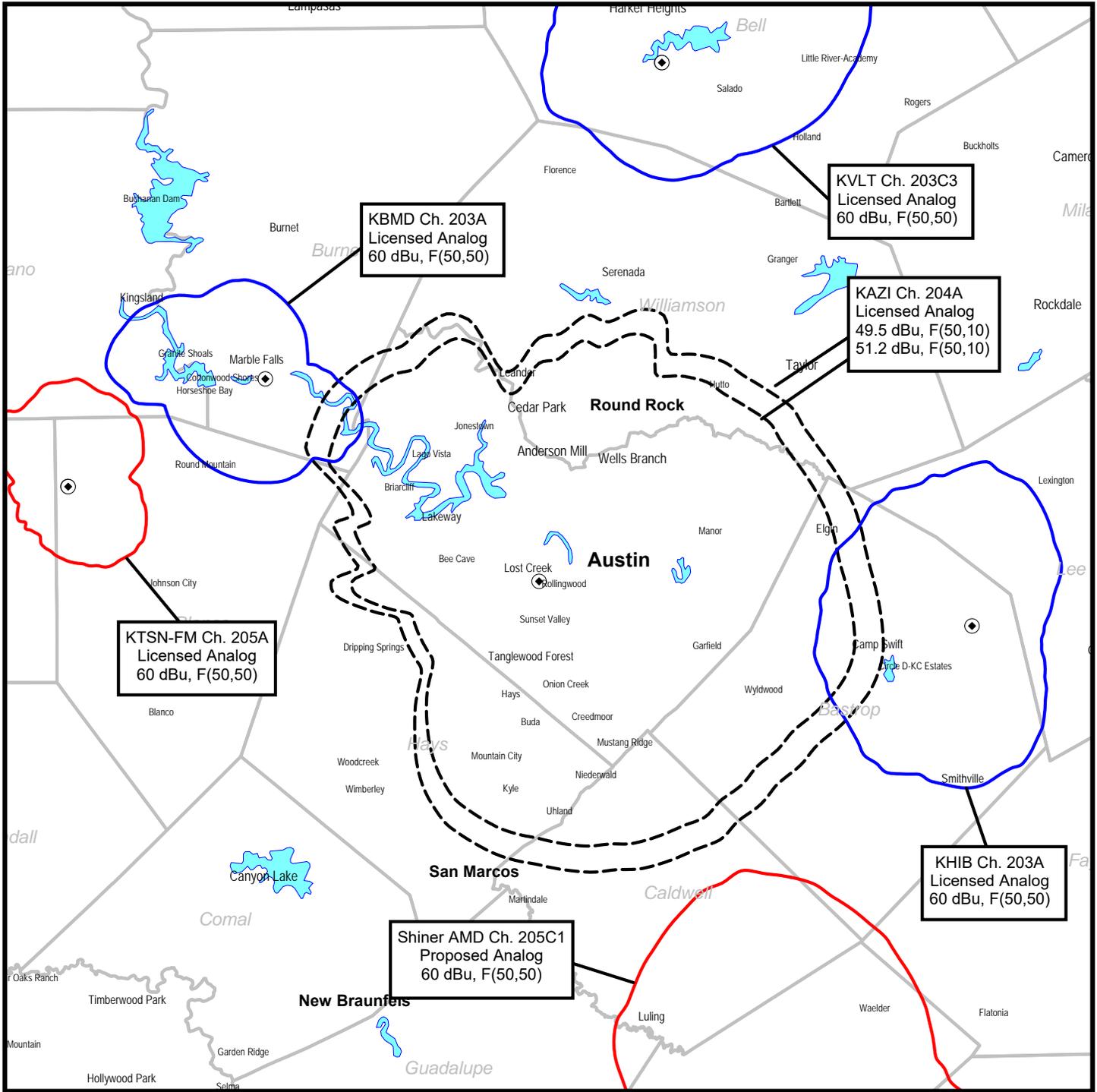
du Treil, Lundin, &amp; Rackley, Inc., Sarasota, Florida



Listed stations are within 200 km of the point at 030-16-37 097-49-34.

Callsign	Chan.	Class	Service	Status	City	State	Latitude	Longitude	Distance (km)
ARN	DA	Antenna ID	Rotation	ERP (kW)	HAAT (m)	RCAMSL (m)	Rec. Type	Facility ID	Bearing (deg)
<b>KBMD</b>	203	A	FM	AMD	MARBLE FALLS	TX	030-33-12.6	098-15-31	51.64
BLED-20020211AAR	DRL	15238	0	6	27	318	C	86792	306.67
<b>KHIB</b>	203	A	FM	L2C	BASTROP	TX	030-12-57.7	097-08-31.9	66.17
BLED-19980508KB	DRL	15565	0	4	94	242	C	85291	95.71
<b>KTSN-FM</b>	205	A	FM	L2C	BLOWOUT	TX	030-24-23.7	098-34-13.1	72.99
BLED-20130315ABF	NDIR			0.125	135	572	C	174329	281.6
<b>KVLT</b>	203	C3	FM	L2C	TEMPLE	TX	030-59-08.7	097-37-57	80.74
BLED-20030425AAW	DRL	43301	0	5	188	418	C	86326	13.18
	205	C1	FM	AMD	SHINER	TX	029-30-48.6	097-25-44.4	92.91
0000167134	DRL	69-2019-0 8-06		75	92	193.8	C	768082	155.63
<b>KWAA</b>	205	C1	FM	L2C	MART	TX	031-23-02.6	097-16-39	133.49
BLED-20070216AAX	DRL	75530		100	190	378	C	83542	22.91
<b>KEDC</b>	203	A	FM	L2C	HEARNE	TX	030-46-13.2	096-32-33.8	134.77
BLED-20100726AJY	NDIR			2.5	56	151	C	172341	65.62
	205	C3	FM	AMD	RUNGE	TX	028-44-42.2	097-52-30.7	169.86
0000167130	DRL	69-2019-0 8-06		15	64	224.3	C	768090	181.61
<b>KAYK</b>	203	C2	FM	L2C	VICTORIA	TX	028-46-44	097-02-52	182.38
BLED-20040322AFS	NDIR			50	86	109	C	82204	155.48

Figure 2



## IBOC PERMISSIBLE ERP ANALYSIS

FM STATION KAZI  
AUSTIN, TEXAS  
CHANNEL 204A (88.7 MHZ)

du Treil, Lundin & Rackley, Inc. Sarasota, Florida

RF HAZARD STATEMENT  
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FM BROADCAST STATION KAZI  
AUSTIN, TEXAS  
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With respect to the potential for human exposure to radio frequency (RF) energy, calculations prepared in accordance with FCC Bulletin OET-65 (Edition 97-01) indicate that the proposal will not result in human exposure to RF energy at ground level in excess of FCC standards. Power density calculations were conducted at 2-m above ground based on the following conservative assumptions, with the following results:

Call Sign	Channel	Average ERP (kW)	Distance (m)	Relative Field Factor <sup>1</sup>	FCC Limit <sup>2</sup> (mW/cm <sup>2</sup> )	Percentage of Limit
KAZI (digital)	204 (88.7 MHz)	0.118 kW (H & V); 0.236 kW (Total)	47	1.0	200	1.95%

As indicated above, the exposure to RF energy at 2-m above ground level will not exceed 1.46% of the FCC limit for general population / uncontrolled exposure. Therefore, the proposal complies with the FCC limits for human exposure to RF energy and it is categorically excluded from environmental processing. The applicant, in coordination with other users of the transmission facility, shall reduce power or cease operation as necessary to protect persons having access to the tower or antenna from RF energy in excess of the FCC guidelines.

<sup>1</sup> This is a worst-case estimate of the relative field factor in the downward direction for this facility.

<sup>2</sup> For general population/uncontrolled environments