



EXHIBIT #E1  
**ENGINEERING STATEMENT**  
Channel 250  
Concerning the Application of  
Clark Atlanta University  
To Build an FM Translator Station at  
Riverdale, Georgia

August 2003

This engineering statement supports the application of Clark Atlanta University, Atlanta, Georgia to build a new FM translator station on channel 250 to serve Riverdale, Georgia. Channel 250 has been listed by the FCC as a "singleton" assigned to the applicant and available for application filing.

Under the instant proposal, the off-air audio signal of primary station WCLK, channel 220 will be delivered to a Crown FM30R translator unit. This unit will deliver 0.01304 kW to the input of a Shively single-bay 6812 antenna. The antenna has a power gain of 0.46 resulting in an effective radiated power of 0.006 kW, polarized circularly.

A total of 12 evenly spaced radials were used to determine the antenna height above average terrain. The highest radial of the 12 was used to determine the maximum effective radiated power. The USGS 30 arc-second terrain elevation database was employed to determine the elevations along the radials that were averaged using the required four-point interpolation method. The resulting averaged radial antenna heights were employed using the Commission's own TVFMINT algorithm to project the distances to signal contours. A tabular listing of the distance to the 1 mV/m contour can be found on page #3 of this exhibit.

**Exhibit #12** is a computer generated allocation study showing that no overlap interference is caused station licenses, construction permits and applications. The proposal causes 2nd adjacent contour overlap with class C3 station, WPZE, Fayetteville, Georgia, and third adjacent overlap with WSB-FM, Atlanta, Georgia. It should be noted

that the predicted U/D interference area never touches the ground. This exhibit also includes allocation maps and FMOVER studies with several co-channel LPFM applications. Neither incoming nor outgoing overlap is caused by these stations.

**Exhibit #16** is an RF hazard statement showing that workers and the general public are protected from radio frequency emissions.

The proposed station is not located within 320 kilometers from the US border with Canada or Mexico. The proposed facility is okay with respect to FCC monitoring stations, Table Mountain and the West Virginia Quiet Zone.

The applicant requests “unattended operation”. The translator can be turned off in cases of an emergency by the staff at the applicant’s campus headquarters in Atlanta.

Page #4 of this **Engineering Exhibit** is a statement of the qualifications of the preparer.

Doug Vernier

Doug Vernier, Telecommunications Consultants

N. Lat. = 33 33 45 W. Lng. = 84 20 28

HAAT and Distance to Contour - FCC Method - 30 Arc Sec.

Clark Atlanta University - Riverdale, Georgia

Azi.	AV EL	HAAT	ERP kW	dBk	Field	60-F5
000	272.9	109.1	0.0060	-22.22	1.000	5.38
030	253.4	128.6	0.0060	-22.22	1.000	5.80
060	253.0	129.0	0.0060	-22.22	1.000	5.81
090	236.6	145.4	0.0060	-22.22	1.000	6.15
120	250.4	131.6	0.0060	-22.22	1.000	5.87
150	260.4	121.6	0.0060	-22.22	1.000	5.66
180	271.2	110.8	0.0060	-22.22	1.000	5.42
210	255.7	126.3	0.0060	-22.22	1.000	5.76
240	265.5	116.5	0.0060	-22.22	1.000	5.55
270	272.3	109.7	0.0060	-22.22	1.000	5.39
300	289.9	92.1	0.0060	-22.22	1.000	4.92
330	292.4	89.6	0.0060	-22.22	1.000	4.84

Ave El = 264.48 M HAAT= 117.52 M AMSL= 382

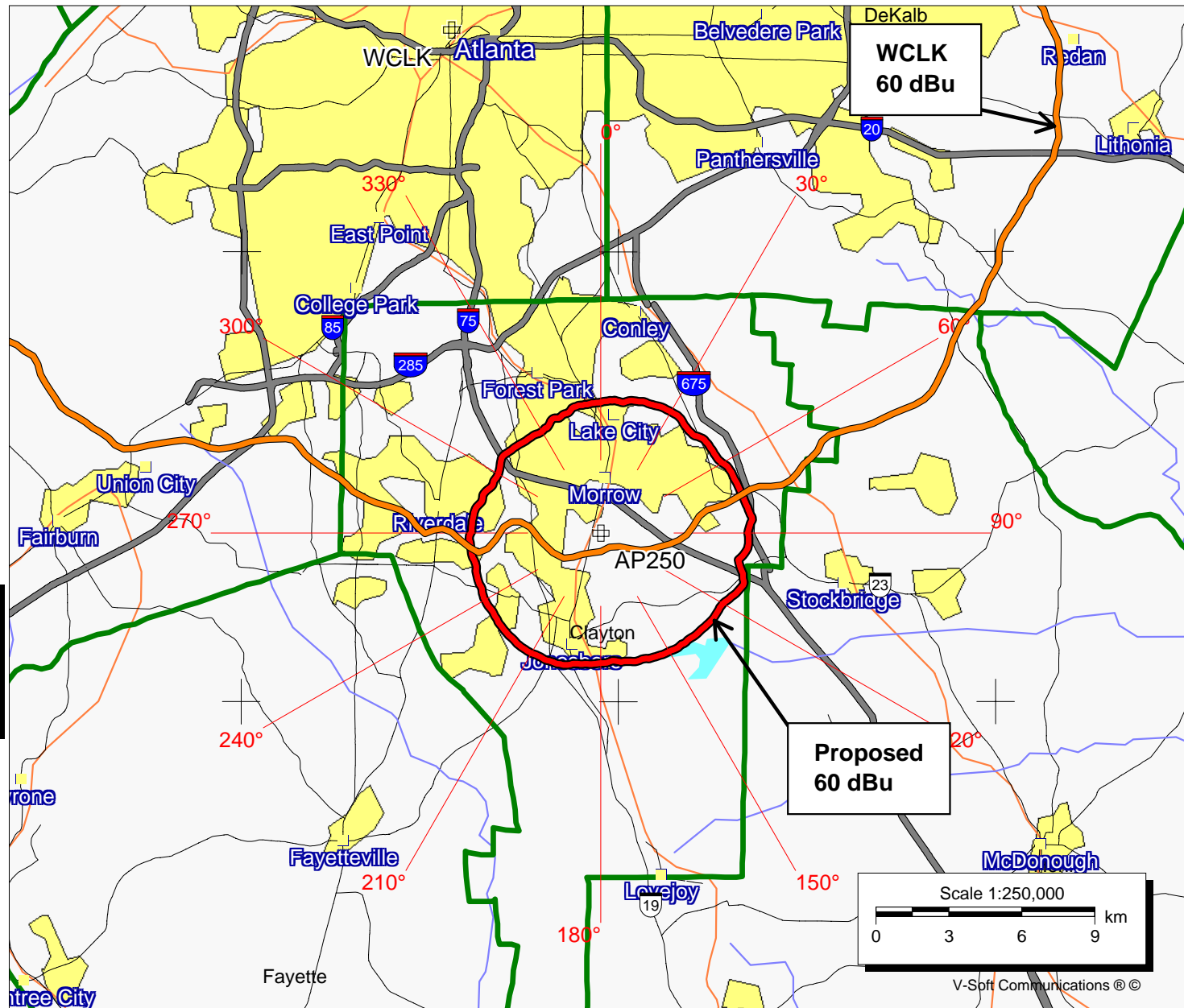
## 60 dBu Contours

### AP250

Latitude: 33-33-45 N  
 Longitude: 084-20-28 W  
 ERP: 0.006 kW  
 Channel: 250  
 Frequency: 97.9 MHz  
 AMSL Height: 382.0 m  
 Elevation: 280 m  
 Horiz. Pattern: Omni  
 Vert. Pattern: No  
 Prop Model: FCC

Population: 88,917  
 Area: 95.95 sq. km

**Doug Vernier**  
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 Cedar Falls, Iowa 50613  
 Telecommunications Consultants



**Declaration:**

I, Douglas L. Vernier, declare that I have received training as an engineer from the University of Michigan School of Engineering. That, I have received degrees from the University in the field of Broadcast Telecommunications. That, I have been active in broadcast consulting for over 30 years;

That, I have held a Federal Communications Commission First Class Radiotelephone License continually since 1964. In 1985, this license was reissued by the Commission as a lifetime General Radiotelephone license no. PG-16-16464;

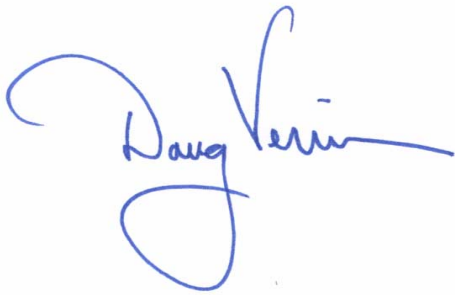
That, I am certified as a Professional Broadcast Engineer (#50258) by the Society of Broadcast Engineers, Indianapolis, Indiana. (Re-certified 10/2000.)

That, my qualifications are a matter of record with the Federal Communications Commission;

That, I have been retained by Clark Atlanta University, Atlanta, Georgia to prepare the engineering showings appended hereto:

That, I have prepared these broadcast engineering showings, the technical information contained in same and the facts stated within are true of my knowledge;

That, under penalty of perjury, I declare that the foregoing is correct.



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Douglas L. Vernier

Executed on August 27, 2003