W221CG Comprehensive Engineering Exhibit
Minor Change to Facility ID No.:148961
August 2011

W221CG is seeking to increase power to 120 watts ERP, upon an existing tower identified by ASR No. 1018983, utilizing a non-directional antenna with a location on that tower 37 meters above ground level, utilizing 2nd adjacent channel 223, for the community of Lithia Springs, Georgia.

Figure 1 demonstrates that the 60 dBu contour of the facility as proposed overlaps the existing authorized facility, making this application compliant for filing as a minor modification application, and that the 60 dBu contour of primary station WUBL entirely encompasses the predicted contour of this proposal, thus demonstrating this proposal is "fill-in" for WUBL.

Attached as Figure 2 is an allocation spacing report wherein it can be determined that the proposed location is within the protected contour of 2nd adjacent facilities of WZGC(FM) licensed facilities. Figure 3 is a calculation of a contour value of 79.6 dBu at the translator. Figure 4 is a graph comparing the signal value of this proposal to that of WZGC (FM) from which it can be determined that this proposal will reach or exceed the +40 dB interference level at the surface of the earth at a distance starting 20 meters to 58 meters from the tower base. Figure 5 is an aerial map demonstrating that there is no habitable space or population within that area, as this proposal meets the requirements according to "Living Way". The co-owned Facility ID No. 83640 as amended will not be caused any predicted prohibited contour overlap from this instant proposal, however, this proposal will receive contour overlap from that facility as proposed.

The proposed facilities were evaluated in terms of potential radio frequency radiation exposure at ground level in accordance with OET Bulletin No. 65, "Evaluating Compliance With FCC-Specified Guidelines for Human Exposure to Radio frequency Radiation."

The proposed antenna system is an SWR FMEC 1- element; full-wave spaced antenna mounted 37 meters above ground. For purposes of this analysis the FM Model program has been set to calculate values for a "Ring Stub" type of antenna element array as a worst case, operated with an effective radiated power of 0.120 Kilowatts in both the horizontal and vertical planes. At 2 meters above the surface, at 10 meters from the base of the tower, this proposal will contribute worst case, 3.9 microwatts per square centimeter, or 0.39 percent of the allowable ANSI limit for controlled exposure, and 1.95 percent of the allowable limit for uncontrolled exposure. This figure is less than 5% of the applicable FCC exposure limit at all locations extending out from the base of the

tower. Section 1.1307(b)(3) excludes applications when the calculated level is predicted to be less than 5% of the applicable exposure limit. It is therefore believed that this proposal is in compliance with OET Bulletin Number 65 as required by the Federal Communications Commission.

Further, the applicant will see that signs are posted in the vicinity of the tower, warning of potential radio frequency hazards at the site. The site itself is restricted from public access. The applicant will cooperate with other users of the tower to reduce power of the facility, or discontinue operation, as necessary to limit human exposure to levels less than specified by the Federal Communications Commission should anyone be required to climb the tower for maintenance or inspection.

Figure 1.

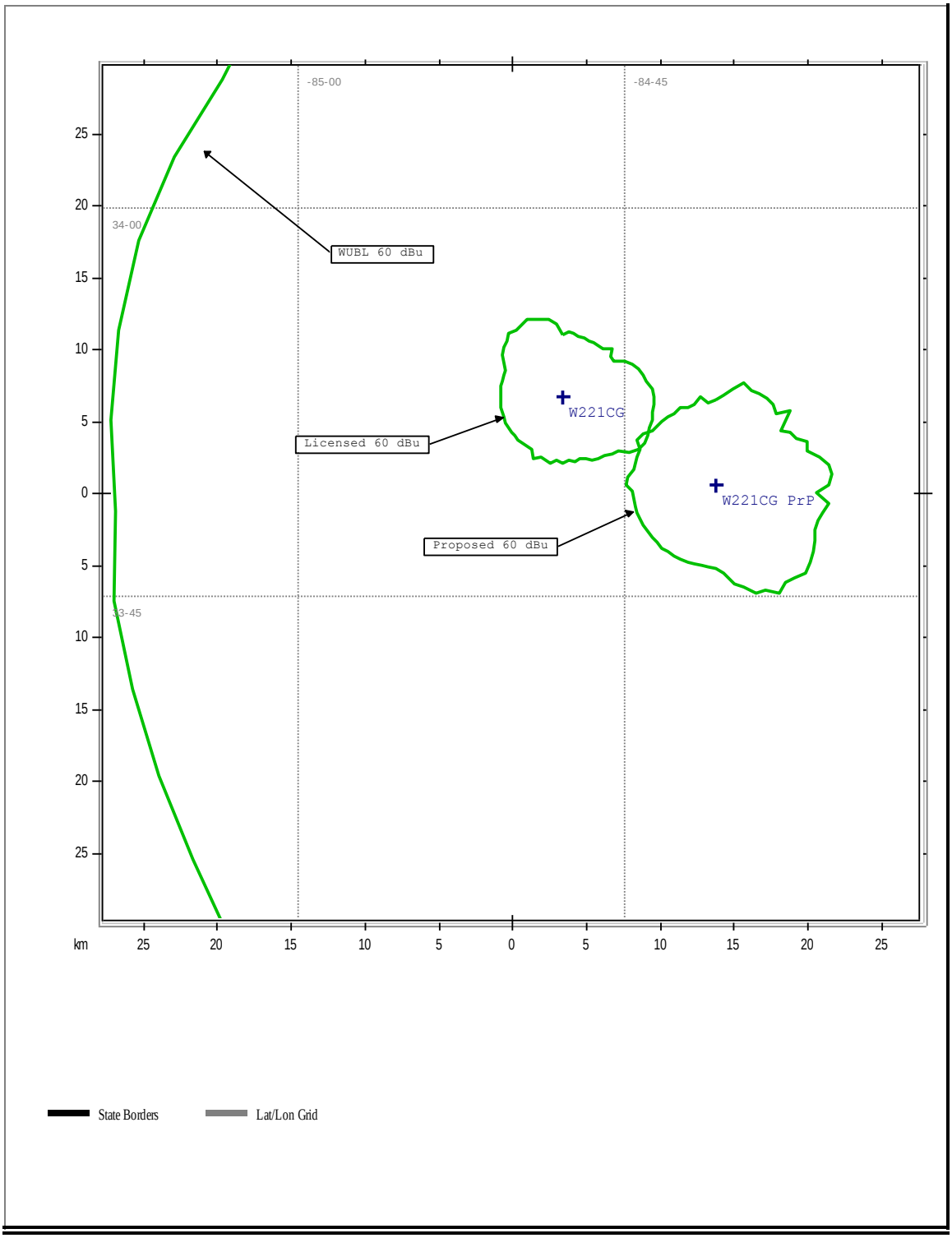
-85-00
-84-45
34-00
33-45
WUBL 60 dBu
Licensed 60 dBu
Proposed 60 dBu
W221CG
W221CG PrP
25
20
15
10
5
0
5
10
15
20
25
km
State Borders
Lat/Lon Grid

Figure 2. Spacing Study

ComStudy 2.2 search of channel 223 (92.5 MHz Class D) at 33-49-19.0 N, 84-40-49.0 W.								
Callsign	**Chanl**	**ERP_w**	**ARN**	**Cls**	**Status**	**Dist_km**	**Clr**	**Clerance Notes**
WZGC	225	64000	BMLH20080226ABQ	C1	LIC	31.6	-20.19 dB	Living Way
WZGC	225	39000	BXLH20060711ABN	C1	LIC	32.75	-14.47 dB	Aux
W222AF PrP	222	99	BPFT20110621AAZ	D	APP	31.46	-5.96 dB	Rcv Inf Only
WCLK	220	6000	BLED20010712ACT	A	LIC	26.56	1.10 dB	Clear
WEKS	223	12000	BLH20060714AAC	C3	LIC	77.12	5.50 dB	Clear
WVEE	277	100000	BMLH20080222ADZ	C0	LIC	32.75	7.8	Clear
WVEE	277	95000	BXMLH20061207AAR	C0	LIC	32.75	7.8	Clear
W222AF	222	15	BLFT20110620AAX	D	LIC	21.03	9.06 dB	Clear
WBTR-FM	221	580	BLH19861029KC	A	LIC	42.29	12.98 dB	Clear
WDEF-FM	222	97000	BMLH20050831ADG	C0	LIC	157.19	21.19 dB	Clear
W221AW	221	10	BLFT20050420ABJ	D	LIC	52.13	30.09 dB	Clear
W221AZ	221	27	BLFT19950802TO	D	LIC	47.23	31.97 dB	Clear
WESC-FM	223	95000	BLH19800811AB	C	LIC	239.84	31.80 dB	Clear
WMOQ	222	3000	BLH20071022BXC	A	LIC	104.43	32.12 dB	Clear

Figure 3

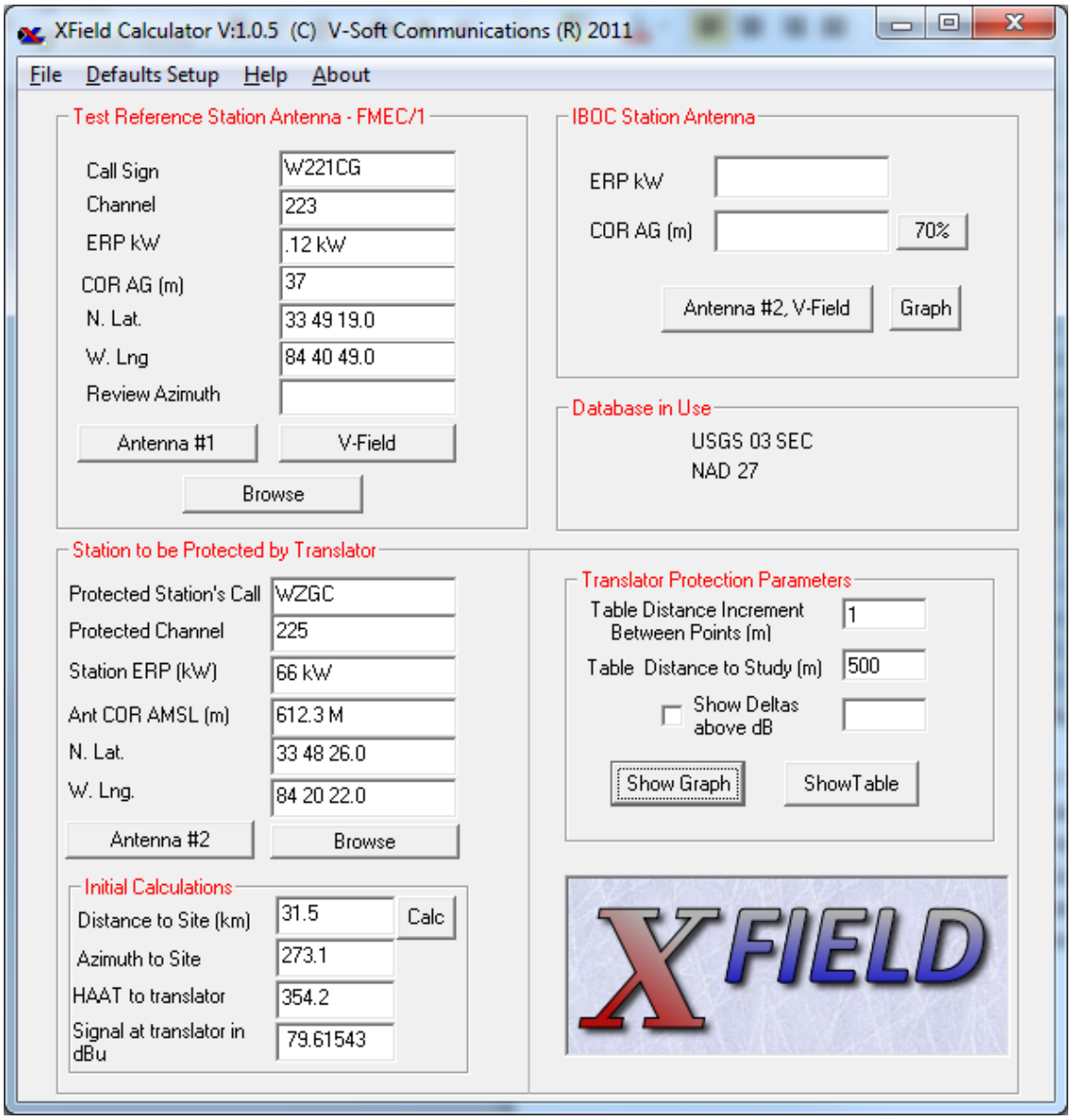
XField Calculator V:1.0.5 (C) V-Soft Communications (R) 2011
File
Defaults Setup
Help
About
Test Reference Station Antenna - FMEC/1
Call Sign
W221CG
Channel
223
ERP kW
.12 kW
COR AG (m)
37
N. Lat.
33 49 19.0
W. Lng
84 40 49.0
Review Azimuth
Antenna #1
V-Field
Browse
IBOC Station Antenna
ERP kW
COR AG (m)
70%
Antenna #2, V-Field
Graph
Database in Use
USGS 03 SEC
NAD 27
Station to be Protected by Translator
Protected Station's Call
WZGC
Protected Channel
225
Station ERP (kW)
66 kW
Ant COR AMSL (m)
612.3 M
N. Lat.
33 48 26.0
W. Lng.
84 20 22.0
Antenna #2
Browse
Initial Calculations
Distance to Site (km)
31.5
Calc
Azimuth to Site
273.1
HAAT to translator
354.2
Signal at translator in dBu
79.61543
Translator Protection Parameters
Table Distance Increment Between Points (m)
1
Table Distance to Study (m)
500
Show Deltas above dB
Show Graph
ShowTable
XFIELD

Figure 4

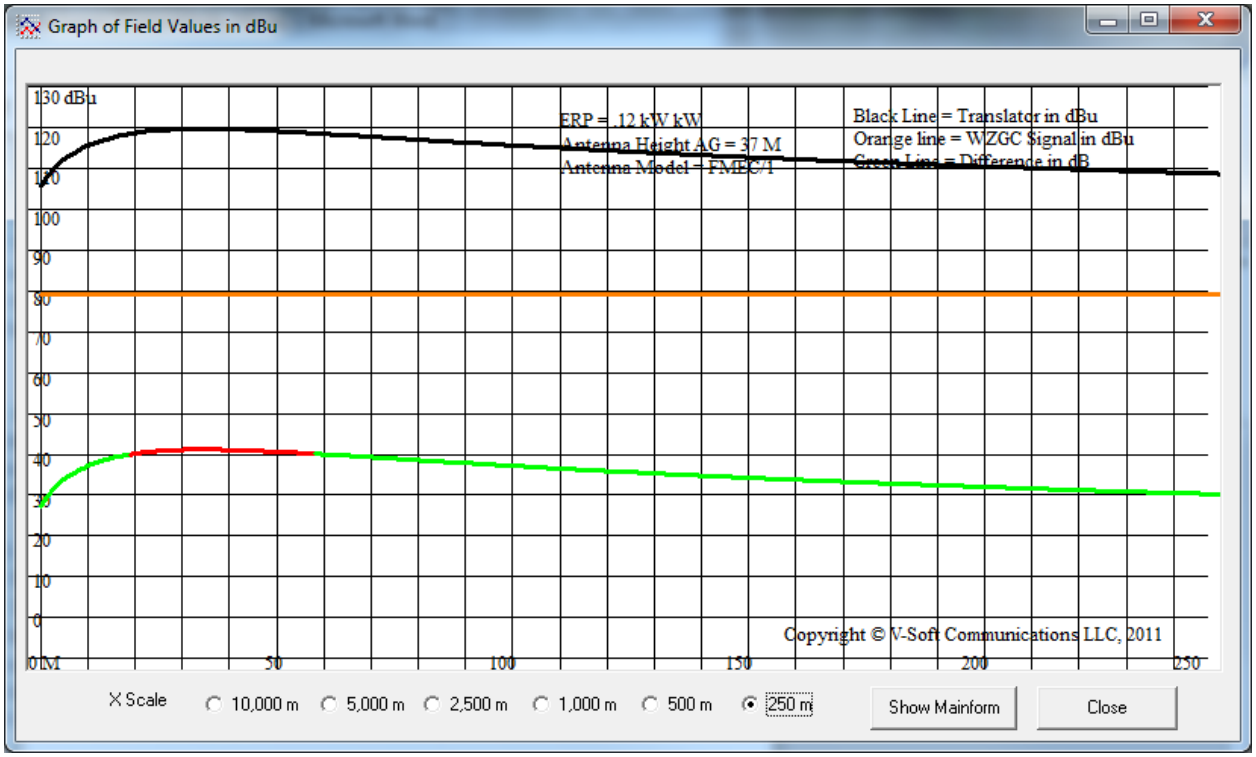
Graph of Field Values in dBu
130 dBu
120
110
100
90
80
70
60
50
40
30
20
10
0
0 M
50
100
150
200
250
ERP = .12 kW kW
Antenna Height AG = 37 M
Antenna Model = FMED/1
Black Line = Translator in dBu
Orange line = WZGC Signal in dBu
Green Line = Difference in dB
Copyright © V-Soft Communications LLC, 2011
X Scale
10,000 m
5,000 m
2,500 m
1,000 m
500 m
250 m
Show Mainform
Close

Figure 5


33 49 19.0 N, 84 40 49.0 W
58 Meter Radius of Tower
© 2011 Google
Imagery Date: 4/8/2010
33°49'18.78" N 84°40'48.83" W elev 942 ft
Eye alt 1518 ft