

Technical Report W233CM Minor Modification

This technical report is submitted for a minor modification to W233CM , FCC file no. BLFT-20180705AAR. Changes in tower site, COR and antenna are submitted. The translator will continue to serve as a fill-in facility to rebroadcast WYCT(FM) 254C1 at Pensacola, FL, FCC facility I.D. no. 539.

W233CM Modification Analysis:

An overlap study in exhibit E-1 shows the W233CM modification is within the WKSJ-FM 235C and WMEZ(FM) 231C0 second-adjacent protected contours. The +40 F(50-10) dBu interfering contours calculated in exhibits E-2 and E-3 show the interfering contours do not reach any population, major roads or buildings (exhibit E-4). The modified 60 dBu contour overlaps the licensed W233CM 60 dBu contour and is contained within the primary WYCT(FM) 60 dBu contour (exhibit E-5).

Antenna System:

W233CM is to be relocated to the existing tower, ASR no. 1060330, at coordinates:

30 25 59N 87 13 09W NAD 27.

A Bext TFC2K two bay, 0.75 wavelength-spaced, nondirectional antenna will be mounted at a COR AGL of 107 meters, 119 meters AMSL and operate at 0.250 kW ERP.

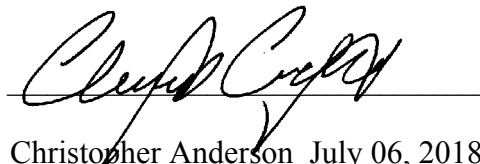
RF Exposure Calculation:

The RF contribution was calculated using FM Model (exhibit E-6). The worst-case RF is calculated to be $0.416 \mu\text{W}/\text{cm}^2$ at a distance of 18.5 meters from the base of

the tower, which is below 5% of the $200 \mu\text{W}/\text{cm}^2$ maximum permissible for uncontrolled exposure, allowing exclusion from consideration.

Conclusion:

It is concluded that the W233CM modification complies with all Commission rules and policies.

A handwritten signature in black ink, appearing to read "Christopher Anderson", is written over a horizontal line.

Christopher Anderson July 06, 2018
andersce@bham.rr.com
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E-1 W233CM Mod. Overlap Study

REFERENCE 30 25 59.0 N. 87 13 09.0 W.		CH# 233D - 94.5 MHz, Pwr= 0.25 kW, HAAT= 112.0 M, COR= 119 M Average Protected F(50-50)= 13.6 km Omni-directional								DISPLAY DATES DATA 07-06-18 SEARCH 07-06-18		
CH CITY	CALL	TYPE STATE	ANT	AZI <--	DIST FILE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*	
233D Milton	W287CX	CP FL	C_	39.2 219.3	22.29 BPFT20180525ABZ	30 35 18.0 87 04 19.0	0.250	54.0 167	16.6 Adx Communications Of Pens	-45.1*	-41.3*	
235C Mobile	WKSJ-FM	LIC NC AL	NC_	296.2 115.9	45.42 BLH20060627ACX	30 36 45.0 87 38 43.0	100.000 521	12.9 553	88.7 Cc Licenses, Lic, As Debto	19.3	-44.3*(1)	
231C0 Pensacola	WMEZ	LIC NCX FL	NCX	298.1 117.9	42.10 BLH20071114ACD	30 36 40.0 87 36 26.0	77.000 488	11.7 520	84.2 Cumulus Licensing Lic	17.2	-43.2*(2)	
233D Milton	W287CX	APP FL	C_	39.2 219.3	22.29 BMPFT20180510AAA	30 35 18.0 87 04 19.0	0.250	33.1 57	9.4 Adx Communications Of Pens	-24.2*	-34.0*	
233C2 Jackson	WHOD	LIC NC AL	NC_	335.1 154.8	128.83 BLH19991102ABM	31 28 59.0 87 47 27.0	30.000 195	136.0 257	55.0 Pine City Radio, Lic	-19.4*	32.2	
233C0 Parker	WFLF-FM	LIC FL	CX	109.4 290.4	200.42 BLH20070606ABP	29 49 09.0 85 15 34.0	100.000 303	172.4 304	72.7 Clear Chan. B/casting Lic	14.1	80.3	
232D Fort Walton Beach	W232CF	APP FL	C_	92.0 272.3	56.73 BPFT20180411AAL	30 24 50.0 86 37 40.0	0.098	13.4 93	9.4 Omni Broadcasting, Lic	29.5	25.8	
232D Fort Walton Beach	W232CF	LIC FL	C_	92.0 272.3	56.73 BLFT20120613ABA	30 24 50.0 86 37 40.0	0.098 80	12.9 87	9.1 Omni Broadcasting, Lic	30.0	26.1	
233D Mobile	1777082	APP AL	C_	289.2 108.7	93.72 BNPFT20180125AFO	30 42 24.0 88 08 43.0	0.250	40.7 87	11.9 Archangel Communications,	39.6	36.3	

Terrain database is FCC NGDC 30 Sec , R= 73.215 qualifying spacings or FCC minimum Spacings in KM, M= Margin in KM
In & Out distances between contours are shown at closest points. Reference zone= East Zone, Co to 3rd adjacent.
All separation margins (if shown) include rounding.
Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, _= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)
"*"affixed to 'IN' or 'OUT' values = site inside restricted contour.
Reference station has protected zone issue: AM tower

- (1) The +40 118.27 F(50-10) dBu contour within the WKSJ-FM 235C second adjacent protected contour (exhibit E-2) lowest point = 78.5 meters, which will not reach any population, buildings or roads (exhibit E-4).
- (2) The +40 117.98 F(50-10) dBu contour within the WMEZ(FM) 231C0 second adjacent protected contour (exhibit E-3) lowest point = 78.5 meters, which will not reach any population, buildings or roads (exhibit E-4).

E-2 W233CM Mod. +40 dBu Tabulation Within WKSJ-FM 235C

W233CM Pensacola, FL, Showing Protection to WKSJ-FM
Geographic Coordinates: N. 30 2 5 59.0 W. 87 1 3 09.0
74.1204(d) Study - Using FCC 30 SEC Terrain Database
Translator or LPFM Maximum Licensed ERP = 0.25
Translator or LPFM Antenna Height AG = 107 Meters
W287CX Antenna Model = BEXT TFC2K-2-75%

Protected Station's Contour = 78.26789 dBu
Translator's or LPFM's full Interference contour 118.26789

Review Azimuth = 0 Degrees True
Relative Field on the horizon at Review Azimuth = 1.000
Translator/LPFM ERP on the horizon at Review Azimuth = 0.25 kW
Distance between stations = 45.4 km
Protected Station= WKSJ-FM, 100 kW, 553.4 M Meters COR AMSL

Depression Angle From Horizon(Deg)	Vertical Relative Field	Horizontal Relative Field	ERP (kw)	Dist to IX Contour Along Dep. Angle (m)	Dist to IX Contour From Tower Base (m)	Height IX Above Ground (m) (1)
00.00	1.0	1.0	0.2500	135.3865	135.3865	107.000
05.00	0.955	1.0	0.2280	129.2941	128.8021	095.731
10.00	0.859	1.0	0.1845	116.2970	114.5302	086.805
15.00	0.737	1.0	0.1358	099.7799	096.3800	081.175
20.00	0.615	1.0	0.0946	083.2627	078.2414	078.522
25.00	0.494	1.0	0.0610	066.8810	060.6147	078.735
30.00	0.35	1.0	0.0306	047.3853	041.0369	083.307
35.00	0.194	1.0	0.0094	026.2650	021.5150	091.935
40.00	0.051	1.0	0.0007	006.9047	005.2893	102.562
45.00	0.071	1.0	0.0013	009.6124	006.7970	100.203
50.00	0.149	1.0	0.0056	020.1726	012.9667	091.547
55.00	0.184	1.0	0.0085	024.9111	014.2884	086.594
60.00	0.19	1.0	0.0090	025.7234	012.8617	084.723
65.00	0.178	1.0	0.0079	024.0988	010.1846	085.159
70.00	0.156	1.0	0.0061	021.1203	007.2236	087.153
75.00	0.126	1.0	0.0040	017.0587	004.4151	090.523
80.00	0.09	1.0	0.0020	012.1848	002.1159	095.000
85.00	0.051	1.0	0.0007	006.9047	000.6018	100.122
90.00	0.02	1.0	0.0001	002.7077	000.0000	104.292

(1) The +40 118.27 F(50-10) dBu contour lowest point = 78.5 meters above the site elevation, which will not reach any population, buldings or roads (exhibit E-4).

E-3 W233CM Mod. +40 dBu Tabulation Within WMEZ(FM) 231C0

W233CM Pensacola, FL, Showing Protection to WMEZ
Geographic Coordinates: N. 30 25 59.00 W. 87 13 09.00
74.1204(d) Study - Using FCC 30 SEC Terrain Database
Translator or LPFM Maximum Licensed ERP = 0.25
Translator or LPFM Antenna Height AG = 107 Meters
W233CM Antenna Model = BEXT TFC2K-2-75%

Protected Station's Contour = 77.9751 dBu
Translator's or LPFM's full Interference contour 117.9751

Review Azimuth = 0 Degrees True
Relative Field on the horizon at Review Azimuth = 1.000
Translator/LPFM ERP on the horizon at Review Azimuth = 0.25 kW
Distance between stations = 42.1 km
Protected Station= WMEZ, 77 kW, 520 M Meters COR AMSL

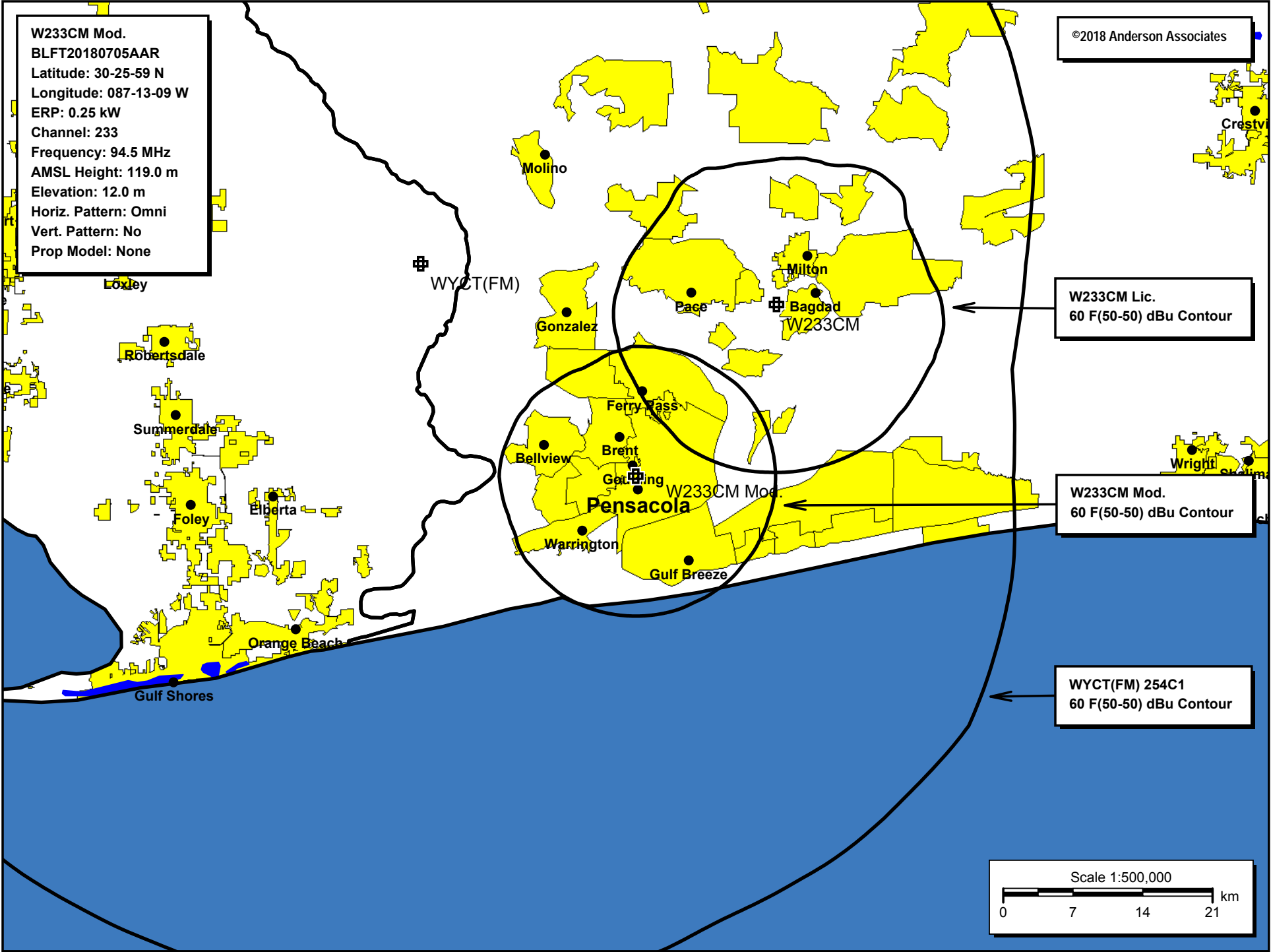
Depression Angle From Horizon(Deg)	Vertical Relative Field	Horizontal Relative Field	ERP (kw)	Dist to IX Contour Along Dep. Angle(m)	Dist to IX Contour From Tower Base(m)	Height IX Above Ground (m) (1)
00.00	1.0	1.0	0.2500	140.0280	140.0280	107.000
05.00	0.955	1.0	0.2280	133.7268	133.2179	095.345
10.00	0.859	1.0	0.1845	120.2841	118.4567	086.113
15.00	0.737	1.0	0.1358	103.2007	099.6842	080.290
20.00	0.615	1.0	0.0946	086.1172	080.9237	077.546
25.00	0.494	1.0	0.0610	069.1738	062.6928	077.766
30.00	0.35	1.0	0.0306	049.0098	042.4437	082.495
35.00	0.194	1.0	0.0094	027.1654	022.2526	091.419
40.00	0.051	1.0	0.0007	007.1414	005.4707	102.410
45.00	0.071	1.0	0.0013	009.9420	007.0300	099.970
50.00	0.149	1.0	0.0056	020.8642	013.4112	091.017
55.00	0.184	1.0	0.0085	025.7652	014.7783	085.894
60.00	0.19	1.0	0.0090	026.6053	013.3027	083.959
65.00	0.178	1.0	0.0079	024.9250	010.5338	084.410
70.00	0.156	1.0	0.0061	021.8444	007.4712	086.473
75.00	0.126	1.0	0.0040	017.6435	004.5665	089.958
80.00	0.09	1.0	0.0020	012.6025	002.1884	094.589
85.00	0.051	1.0	0.0007	007.1414	000.6224	099.886
90.00	0.02	1.0	0.0001	002.8006	000.0000	104.199

(1) The +40 117.98 F(50-10) dBu contour lowest point = 77.5 meters above the site elevation, which will not reach any population, buildings or roads (exhibit E-4).

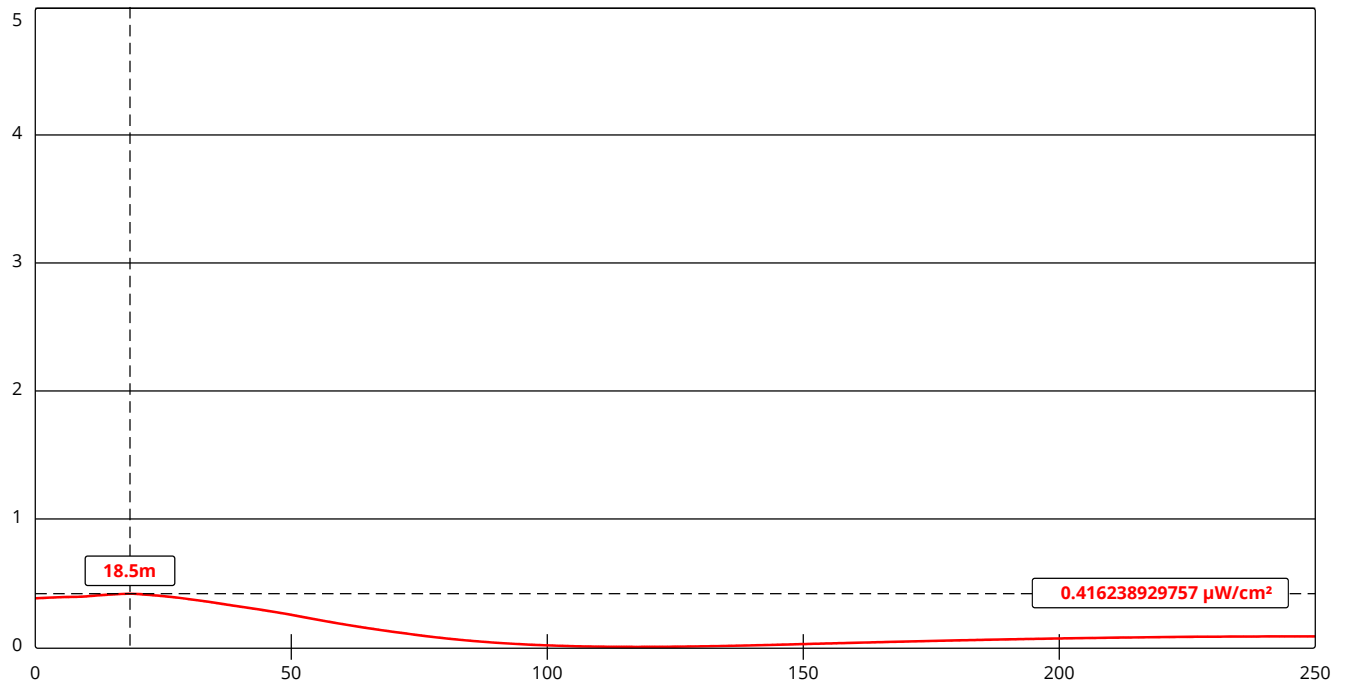
E-4 W233CM +40 dBu Contour Aerial Photo



E-5 W233CM Mod. 60 dBu Contour Plot



E-6 W233CM Mod. RF Calculation



Channel Selection	Channel 233 (94.5 MHz)		
Antenna Type +	EPA Type 1: Ring-and-Stub or "Other"		
Height (m)	107	Distance (m)	250
ERP-H (W)	250	ERP-V (W)	250
Num of Elements	2	Element Spacing (λ)	0.75
Num of Points	500		

E-7 W233CM Mod. Tower ASR

ASR Registration Search

Registration 1060330

 [Map Registration](#)

Registration Detail

Reg Number	1060330	Status	Granted
File Number	A0747769	Constructed	01/01/1950
EMI	No	Dismantled	
NEPA	No		

Antenna Structure

Structure Type TOWER - Free standing or Guyed Structure used for Commu

Location (in NAD83 Coordinates)

Lat/Long	30-25-59.9 N 087-13-08.7 W	Address	2070 N PALAFOX
City, State	PENSACOLA , FL		
Zip	32501	County	ESCAMBIA
Center of AM Array		Position of Tower in Array	

Heights (meters)

Elevation of Site Above Mean Sea Level	Overall Height Above Ground (AGL)
12.2	121.9
Overall Height Above Mean Sea Level	Overall Height Above Ground w/o Appurtenances
134.1	121.9

Painting and Lighting Specifications

FAA Chapters 3, 4, 5, 12

Paint and Light in Accordance with FAA Circular Number 70/7460-1K

FAA Notification

FAA Study	2011-ASO-3241-OE	FAA Issue Date	08/08/2011
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Owner & Contact Information

FRN	0016140766	Owner Entity Type
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Owner

Divine Word Communications
Attention To: Gene Church
P.O. Box 866
Pensacola , FL 32591

P: (888)777-1568
F:
E: info@divinewordradio.com

Contact

Kilgore , Alan F
416 Polczinski Circle
Oconto Falls , WI 54154

P: (920)373-7569
F:
E: KilgoreBroadcast@gmail.com

Last Action Status

Status	Granted	Received	01/13/2012
Purpose	Modification	Entered	01/13/2012