



ENGINEERING STUDY

FCC 349 –License Modification

W266BW, BLFT-20170125AHA

TECHNICAL STATEMENT

This technical statement and attached exhibits were prepared on behalf of Davis Broadcasting of Atlanta, L.L.C. ("Davis") licensee of W266BW, Facility ID 147273. This application seeks to modify the above reference translator's antenna in order to eliminate any potential for interference to co-channel station, WLJA, Ellijay, GA. This application is being filed in response to an order to immediately cease operation from the Commission dated February 1, 2019, Reference 1800B3-KV. This engineering firm was engaged by Davis following the above referenced letter to review and offer methods by which any potential interference to WLJA could be eliminated.

An evaluation of different antennas available was undertaken and a Kathrein Scala dual log-periodic antenna was selected to replace the directional dipole style antenna currently licensed. The modified antenna will produce a greater than 10dB reduction in RF in the direction of WLJA and will reduce the signal from approximately 12 watts to less than 1 watt. Additionally, by carefully mounting the log-periodic antenna on the south face of the 12ft face tower, it is expected that there will be even more attenuation to the north. As is demonstrated, the proposed contours from W266BW will protect not only the WLJA 60dBu contour but will also protect the WLJA 54dBu contour. Note that for the sake of accuracy, NED03 terrain data was used.

Facilities Proposed

Location (NAD27) (no change)	33° 48' 26" N Latitude, 84° 20' 22" W Longitude
Channel	266D (101.1MHz)
Tower Overall AGL Height-	360m
Tower ASR	1223132
Proposed Antenna	Kathrein Scala dual CL-FM 110deg skew
Antenna AGL Height-	291m
Site AMSL Height-	264m
ERP	250 Watts- (directional, Exhibit A)

COMPLIANCE WITH 74.1204(a) [contour overlap]

The proposed translator on channel 266D will be fully compliant with 74.1204(a). A table showing the allocation is attached as Exhibit B and a map depicting the closest pertinent facilities is attached as Exhibit C. A comparison of licensed and proposed interfering contours toward WLJA is shown in Exhibit D.

COMPLIANCE WITH 74.1204(d)

The proposed translator on 266D will be compliant with 74.1204(d). As shown in Exhibit E, there will be no location at ground level where the signal from W266BW will be more than 40dB above WKHX-FM (268C0) or WNNX (263C2).

COMPLIANCE WITH 74.1201(g)

Exhibit F demonstrates that the proposed translator will be entirely contained within 25 miles of the transmitter site for primary station WJZA (AM), 1310kHz, Decatur, GA Facility ID 36144.

The proposed facility is not within 320km of the common border between the US and Canada or Mexico.

COMPLIANCE WITH 74.1233 [Minor Change]

Because the proposed translator is at the same location as the existing licensed location, this is considered a minor modification from the original proposal.

ENVIRONMENTAL EXHIBIT

The proposed translator facility will utilize a directional antenna located on an existing tower. The attachment of the proposed translator antenna will not alter the existing structure significantly for purposes of the Nationwide Programmatic Agreement and the NHPA Section 106.

The proposed 266D facility will utilize a 2 element, skewed mount log-periodic located at 291m AGL, Based upon the FCC “FM Model for Windows”¹ program using a worst-case ring-stub antenna, the proposed 266D operation will produce .095 $\mu\text{W}/\text{cm}^2$ at a distance of 66m from the base of the tower at ground level or 0.05% of the MPE level. There are multiple non-excluded antennas on the tower. Because the projected MPE is well under 5%, this translator can be considered independently of other RF sources on the tower.

Based upon the information above, it is calculated that the facility will be in compliance with FCC guidelines and is excluded from further Environmental Assessment under 47CFR 1.1306 and 1.1307.

The proposed FM translator along with other users at the site maintain an occupational safety policy and agrees to reduce power or cease operation during periods of maintenance to avoid potentially harmful exposure of personnel to non-ionizing RF radiation.

Respectfully Submitted

A handwritten signature in dark ink, appearing to read "Bert Goldman", with a long horizontal flourish extending to the right.

Bert Goldman

Technical Consultant

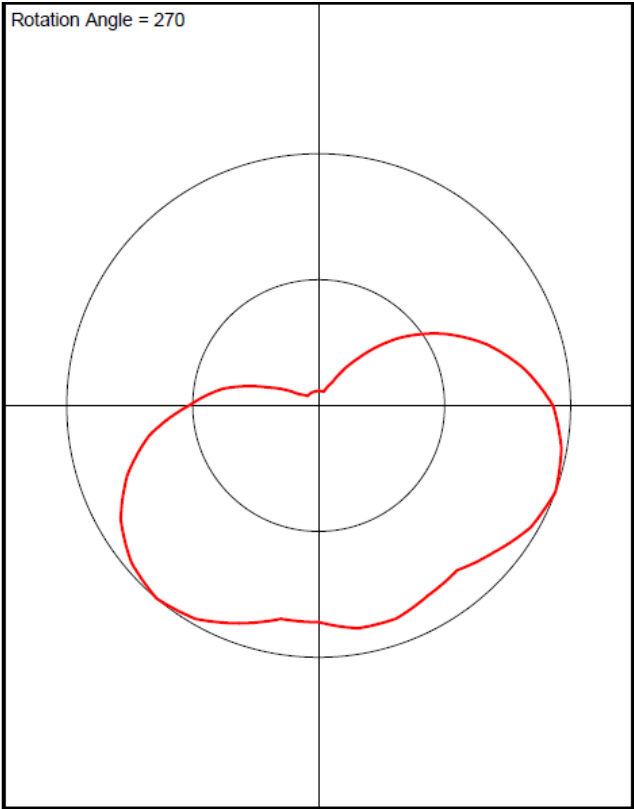
¹ <https://www.fcc.gov/general/fm-model>

EXHIBIT A- ANTENNA PATTERN

W266AV PROP Antenna Pattern

Pre-Rotation Antenna Pattern....

Azimuth (deg)	Relative Field
0.0	0.514
5.0	0.4495
10.0	0.385
15.0	0.297
20.0	0.209
25.0	0.149
30.0	0.089
35.0	0.0735
40.0	0.058
45.0	0.058
50.0	0.058
55.0	0.058
60.0	0.058
65.0	0.058
70.0	0.058
75.0	0.058
80.0	0.058
85.0	0.058
90.0	0.058
95.0	0.058
100.0	0.058
105.0	0.058
110.0	0.058
115.0	0.081
120.0	0.104
125.0	0.175
130.0	0.246
135.0	0.332
140.0	0.418
145.0	0.494
150.0	0.57
155.0	0.64
160.0	0.71
165.0	0.77
170.0	0.83
175.0	0.88
180.0	0.93
185.0	0.954
190.0	0.978
195.0	0.989
200.0	1.0
205.0	0.985
210.0	0.97
215.0	0.9385
220.0	0.907
225.0	0.8805
230.0	0.854
235.0	0.862
240.0	0.87
245.0	0.885
250.0	0.9
255.0	0.899
260.0	0.898
265.0	0.879
270.0	0.86
275.0	0.86
280.0	0.86
285.0	0.89
290.0	0.92
295.0	0.949
300.0	0.978
305.0	0.989
310.0	1.0
315.0	0.985



320.0	0.97
325.0	0.9385
330.0	0.907
335.0	0.8575
340.0	0.808
345.0	0.745
350.0	0.682
355.0	0.598

EXHIBIT B- ALLOCATION STUDY

ComStudy 2.2 search of channel 266 (101.1 MHz Class D) at 33-48-26.0 N, 84-20-22.0 W.

CALL	CITY	ST CHN CL	DIST	SEP	BRNG	CLEARANCE
WKHX-FM	MARIETTA	GA 268 C0	0.00	0.00	90.0	-86.16 dB
WNNX	COLLEGE PARK	GA 263 C2	6.99	0.00	220.6	-38.43 dB
W265AV-L	WOODSTOCK	GA 265 D	30.80	0.00	339.6	3.60 dB Exhibit D
W265AV-CP	WOODSTOCK	GA 265 D	30.75	0.00	339.6	6.02 dB Exhibit D
WTGA-FM	THOMASTON	GA 266 A	91.01	0.00	181.5	6.99 dB Exhibit D
W265DG	MCDONOUGH	GA 265 D	46.09	0.00	155.2	7.01 dB Exhibit D
W265AV	WOODSTOCK	GA 265 D	23.69	0.00	320.6	9.09 dB Exhibit D
W266AH	ATHENS	GA 266 D	95.79	0.00	79.6	16.52 dB
WLJA-FM	ELLIJAY	GA 266 C3	87.44	0.00	349.0	16.84 dB
WNNX*	COLLEGE PARK	GA 263 C2	16.05	0.00	250.4	16.99 dB
WJES	MAYSVILLE	GA 265 A	86.41	0.00	47.0	17.97 dB
WUSY	CLEVELAND	TN 264 C0	177.98	0.00	331.1	27.50 dB
WJES*	MAYSVILLE	GA 265 A	85.71	0.00	46.3	27.69 dB
WUSY	CLEVELAND	TN 264 C0	177.98	0.00	331.1	28.97 dB
WROQ	ANDERSON	SC 266 C1	212.22	0.00	63.3	28.54 dB

CDBS as of 2/10/2019

EXHIBIT C Pertinent Protection Contours, 74.1204(a) Compliance

Proposed W266BW Allocation

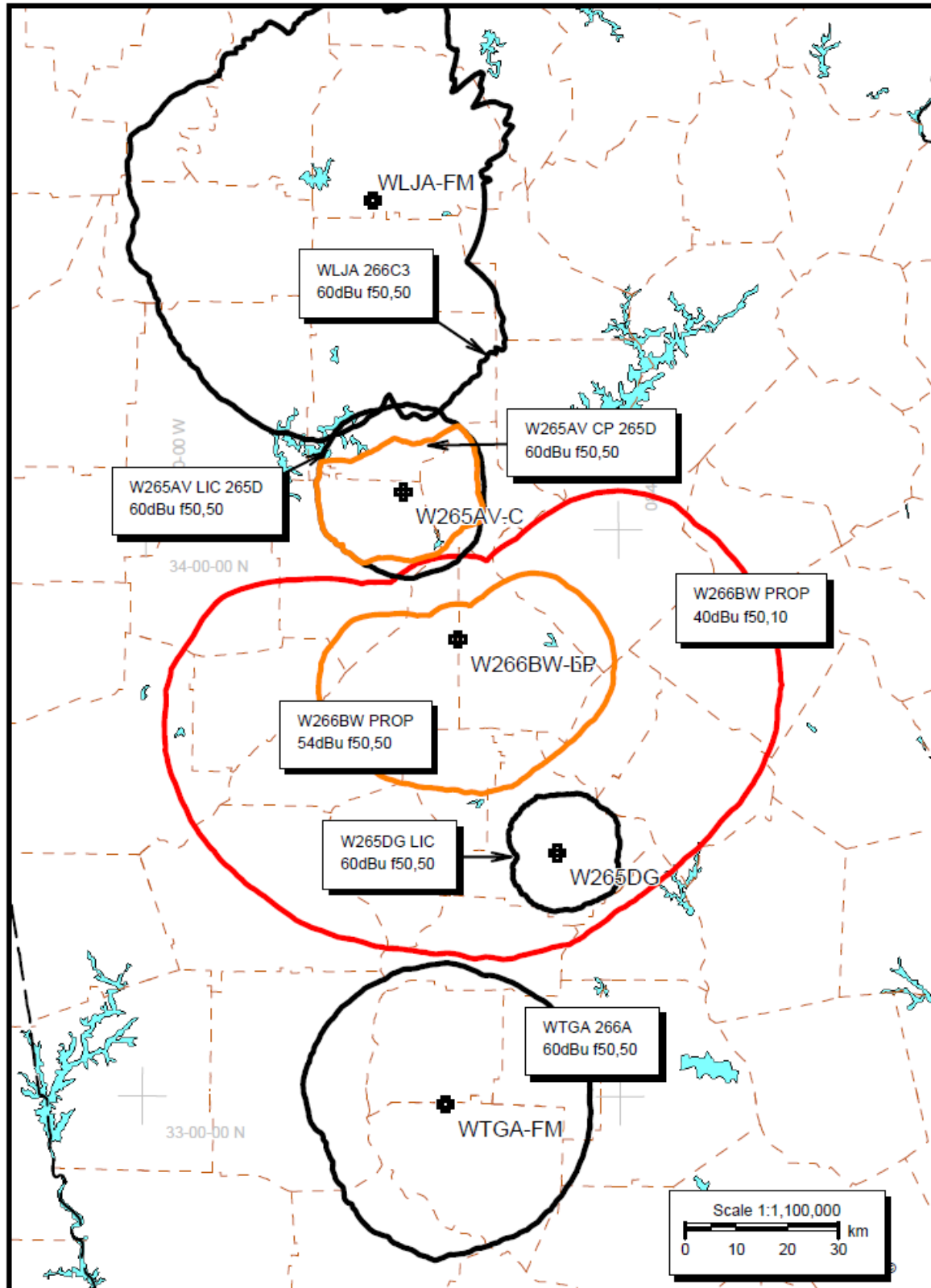


EXHIBIT D- INTERFERING CONTOUR COMPARISON

Proposed W266BW Contours vs Licensed

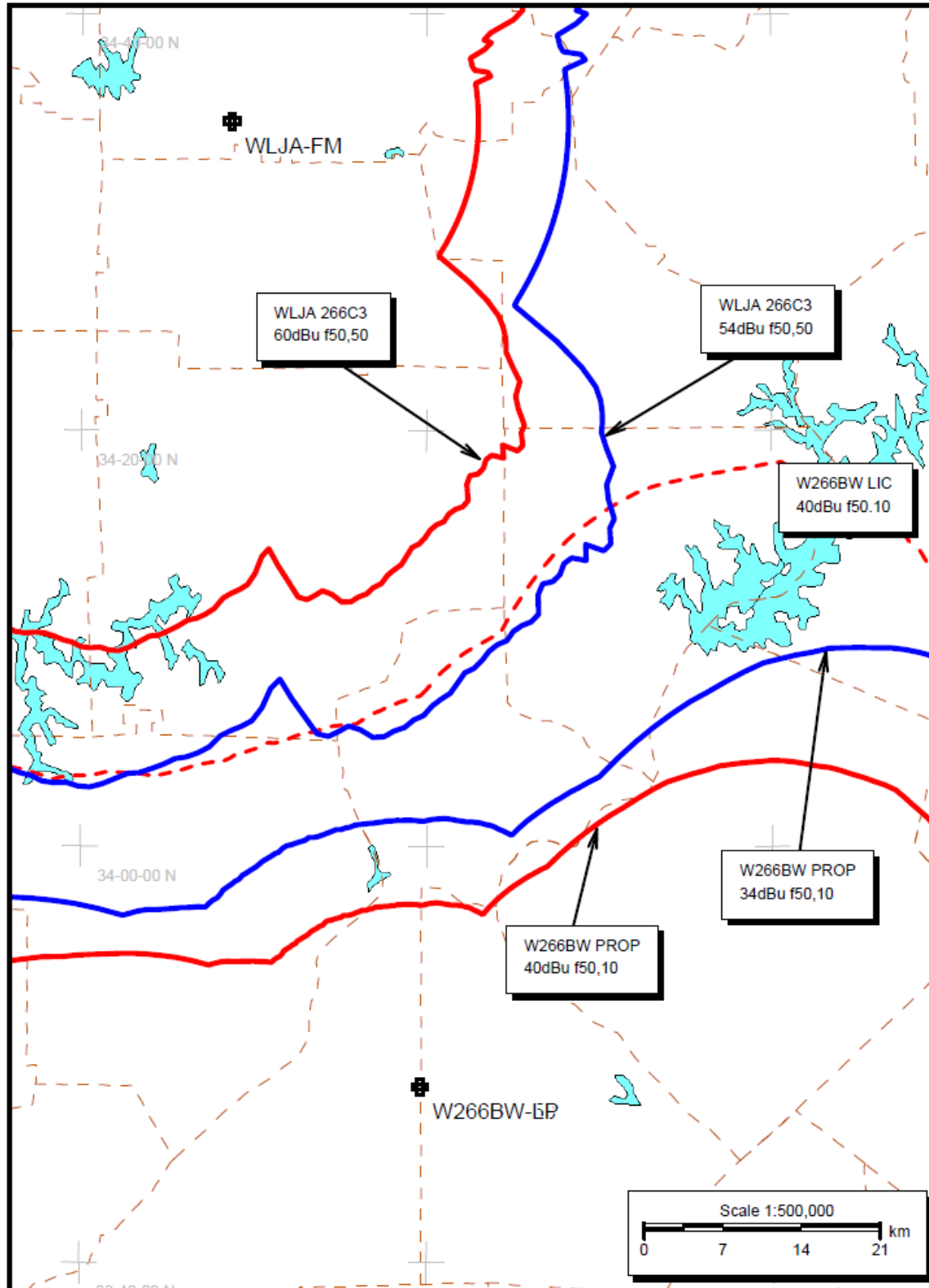


EXHIBIT E- 74.1204(d) Compliance

Compliance to WKHX-FM

Because WKHX, 268C0 (100kW ERP) is collocated with W255BW, there will be no locations where W266BW could develop a signal level 40dB or more above WKHX

Compliance to WNNX (FM) 263C2

266BW Winder, GA, Showing Protection to WNNX
Geographic Coordinates: N. 33 4 8 26.0 W. 84 2 0 22.0
74.1204(d) Study - Using NED 03 SEC Terrain Database
Translator or LPFM Maximum Licensed ERP = 0.25
Translator or LPFM Antenna Height AG = 291 Meters
W266BW Antenna Model = CL-FM_0098-MHZ_VPOL_000DT

Protected Station's Contour = 96.67504 dBu
Translator's or LPFM's full Interference contour 136.67504

Review Azimuth = 0 Degrees True- Analysis as non-directional antenna
Horizontal Relative Field at Review Azimuth = 1.000
Translator/LPFM ERP on the horizontal at Review Azimuth = 0.25 kW
Distance between stations = 7.0 km
Protected Station= WNNX, 13.5 kW, 576 M Meters COR AMSL

Depression Angle From Degree(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)
00.00	1.0	1.0	0.2500	016.2636	016.2636	291.000
05.00	0.98	1.0	0.2401	015.9384	015.8777	289.611
10.00	0.95	1.0	0.2256	015.4505	015.2157	288.317
15.00	0.895	1.0	0.2003	014.5560	014.0600	287.233
20.00	0.82	1.0	0.1681	013.3362	012.5319	286.439
25.00	0.735	1.0	0.1351	011.9538	010.8338	285.948
30.00	0.645	1.0	0.1040	010.4901	009.0847	285.755
35.00	0.563	1.0	0.0791	009.1483	007.4939	285.753
40.00	0.47	1.0	0.0552	007.6439	005.8556	286.087
45.00	0.36	1.0	0.0324	005.8549	004.1400	286.860
50.00	0.25	1.0	0.0156	004.0659	002.6135	287.885
55.00	0.155	1.0	0.0060	002.5209	001.4459	288.935
60.00	0.085	1.0	0.0018	001.3824	000.6912	289.803
65.00	0.045	1.0	0.0005	000.7319	000.3093	290.337
70.00	0.02	1.0	0.0001	000.3253	000.1112	290.694
75.00	0.01	1.0	0.0000	000.1626	000.0421	290.843
80.00	0.01	1.0	0.0000	000.1626	000.0282	290.840
85.00	0.01	1.0	0.0000	000.1626	000.0142	290.838
90.00	0.01	1.0	0.0000	000.1626	000.0000	290.837

EXHIBIT F- 74.1233 COMPLIANCE

PROP W266BW 74.1233 Compliance

