

**MINOR MODIFICATION APPLICATION
W229CQ, MILWAUKEE, WI**

December 2023

TECHNICAL STATEMENT

This technical statement and attached exhibits have been prepared on behalf of Bustos Media of Wisconsin, LLC (“Bustos”), Licensee of translator station W229CQ, Facility identifier 146071. The applicant proposes to modify the license (BLFT20160720ABZ) to relocate 1.3 km from the Hilton Building to the US Bank Building in Central Milwaukee due to the decommissioning of the tower on the Hilton Building. This translator will continue to rebroadcast Facility ID 53506, WDDW (FM), as a fill-in translator in compliance with 47CFR 74.1201(g). The translator community of license will remain in Milwaukee, WI. W229CQ is co-owned with WDDW (FM).

Facilities Proposed

Location (NAD83)	43° 02' 18" N Latitude, 87° 54' 07" W Longitude
Channel	229D (93.7MHz)
Tower Overall AGL Height-	189m
Tower ASR (Attached Exhibit D)	NONE Existing Building
Proposed Antenna	Scala 2 element HDCA-5-CP/RM
Antenna AGL Height-	189m
Site AMSL Height-	185m
COR AMSL Height	374m
ERP	250w DIRECTIONAL (SEE EXHIBIT A)

Interference Study

ComStudy 2.2 search of channel 229 (93.7 MHz Class D) at 43-02-18.0 N, 87-54-07.0 W.

CALL	CITY	ST CHN CL	DIST	SEP	BRNG	CLEARANCE
WLDB	MILWAUKEE	WI 227 B	6.42	0.00	358.3	-45.40 dB Exhibit C
W230DJ-CP	CEDARBURG	WI 230 D	29.23	0.00	346.0	4.14 dB
WBGR-FM	MONROE	WI 229 B	155.24	0.00	251.2	10.90 dB
WBQR-LP	BROOKFIELD	WI 282 LP100	17.82	7.00	292.3	10.8
WJJO	WATERTOWN	WI 231 B	94.60	0.00	271.8	11.51 dB
WLIT-FM	CHICAGO	IL 230 B	130.64	0.00	170.3	13.54 dB
WBFM	SHEBOYGAN	WI 229 A	76.94	0.00	10.1	13.95 dB
W229DE	FOND DU LAC	WI 229 D	92.79	0.00	331.8	16.97 dB
WBCT	GRAND RAPIDS	MI 229 B	198.49	0.00	102.4	18.29 dB
WXRT	CHICAGO	IL 226 B	128.63	0.00	169.7	22.31 dB
WBCT	GRAND RAPIDS	MI 229 B	198.49	0.00	102.4	26.06 dB
DWCCX	WAUKESHA	WI 283 D	26.81	0.00	262.0	26.8
W283CJ-LIC	CEDARBURG	WI 283 D	29.22	0.00	345.9	29.2
WVIV-FM	LEMONT	IL 228 A	131.14	0.00	181.9	30.45 dB

LMS Data as of 12/19/2023

COMPLIANCE, 74.1201(g), 74.1233(a)(1), and 74.1204(a),(d)

Exhibit B demonstrates compliance with 74.1204(a). There are no impermissible contour overlaps to any other facilities.

As demonstrated in Exhibit C, per 74.1204(d), there will be no ground-level location where the signal of W229CQ will be in excess of 40dBu above the WLDB second adjacent signals.

Exhibit D demonstrates compliance with 74.1201(g) governing the use of a translator as a fill-in for an FM station. The 60dBu contour of the proposed W229CQ will be completely contained within the 1mV/m contour of WDDW (FM).

Exhibit D demonstrates that the proposed facility is compliant with 74.1233(a)(1). The proposed 60dBu contour overlaps the 60dBu contour of the current facility, and the proposed W229CQ is MX to the current facility.

Environmental Exhibit

The proposed W229CQ facility will utilize a directional antenna located on an existing building owned by US Bank. The antenna will be mounted on the penthouse structure on the roof of the building. The RF density near the tower was calculated using a worst-case dipole antenna setting at 250 watts and 9m above the building roof. There are no other facilities currently operating from this location.

Using the FCC program “FM Model”¹, it was calculated that the proposed antenna contributes approximately 23.1 $\mu\text{W}/\text{cm}^2$ or 11.6% of the total allowable 200 $\mu\text{W}/\text{cm}^2$. The maximum was found to be 17.2 meters from the base of the tower. The roof of the US Bank Building is highly restricted from access by the public.

Based upon the preceding, the proposed facility is believed to be compliant under §1.1306 of the FCC rules and regulations.

Respectfully Submitted

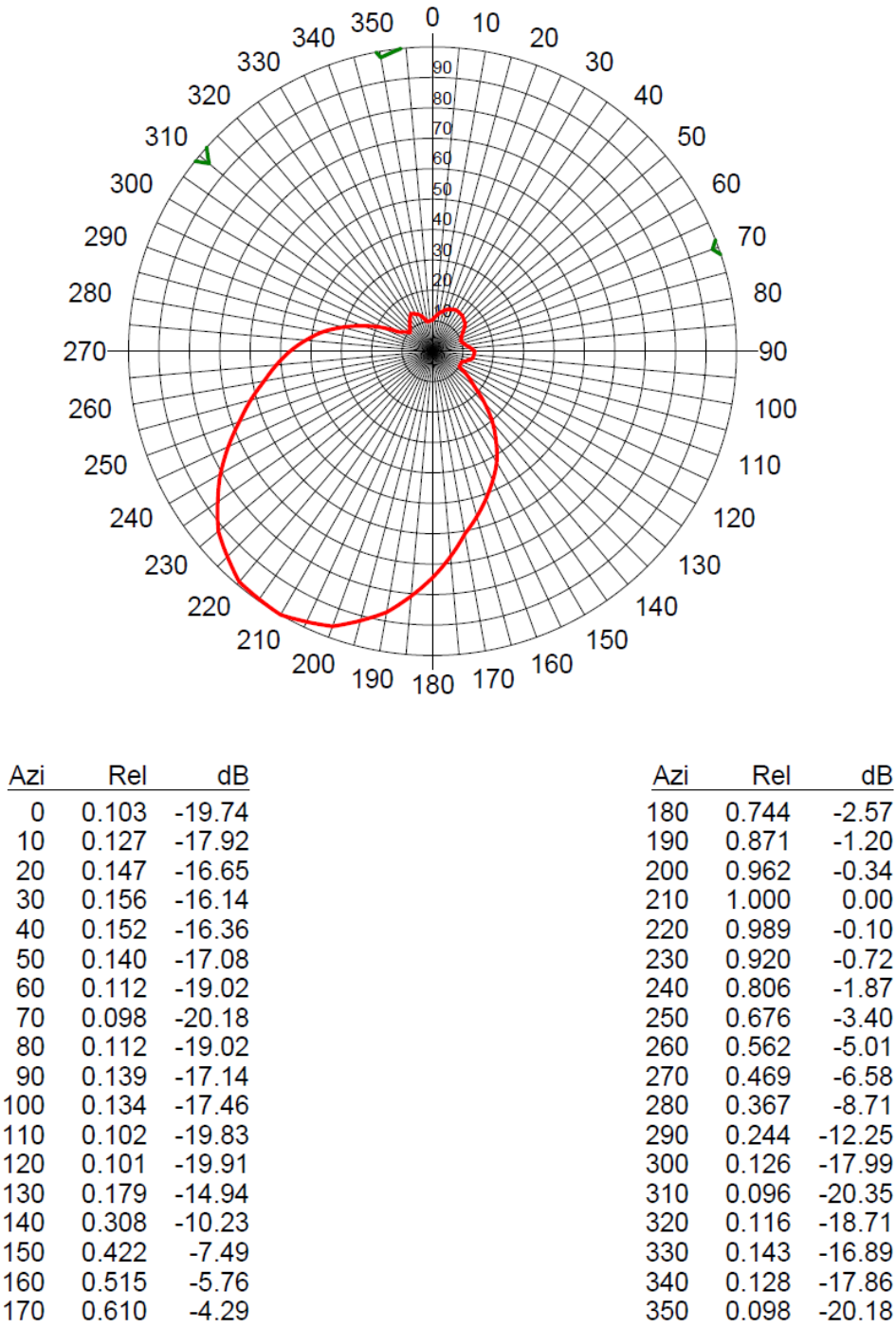


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¹ <https://www.fcc.gov/general/fm-model>

EXHIBIT A: 2-Element Scala HDCA-5-CP/RM

W229CQ PROP pattern



Rotation Angle = 0

EXHIBIT B- 74.1204(a) Compliance

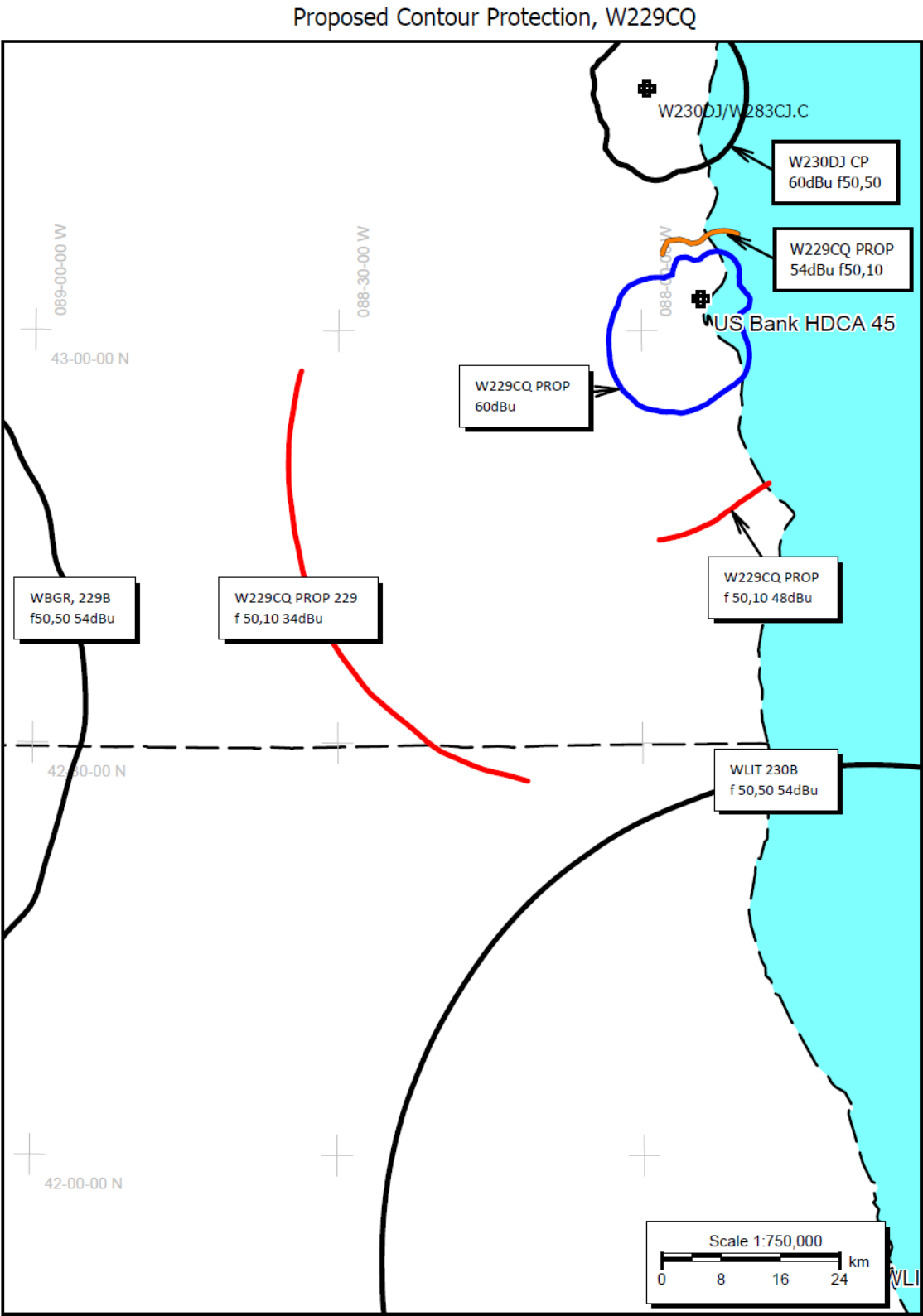


EXHIBIT C- 74.1204(d) Compliance

W229CQ Milwaukee, WI, Showing Protection to WLDB, Channel: 227

Geographic Coordinates: N. 43-02-18.0 W. 87-54-07

74.1204(d) Study - Using NED 03 SEC Terrain Database

Translator or LPFM Maximum Licensed ERP = 0.25 kW, Channel: 229

Translator or LPFM Antenna Height AG = 189 meters

W229CQ Antenna Azimuth Model = CA5-FM/CP

Protected Station's Contour = 98.23573 dBu

Translator's or LPFM's full Interference contour 138.23573

Review Azimuth = 210 Degrees True

Horizontal Relative Field at Review Azimuth = 1.000

Translator/LPFM ERP on the horizontal at Review Azimuth = 0.25 kW

Distance between stations = 6.4 km

Protected Station= WLDB, 16 kW, 468 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	013.5889	013.5889	189.000
05.00	0.986	1.0	0.2430	013.3959	013.3449	187.832
10.00	0.966	1.0	0.2331	013.1228	012.9234	186.721
15.00	0.928	1.0	0.2152	012.6064	012.1768	185.737
20.00	0.871	1.0	0.1896	011.8332	011.1196	184.953
25.00	0.802	1.0	0.1609	010.9010	009.8797	184.393
30.00	0.727	1.0	0.1321	009.8791	008.5556	184.060
35.00	0.643	1.0	0.1035	008.7417	007.1608	183.986
40.00	0.553	1.0	0.0765	007.5187	005.7597	184.167
45.00	0.458	1.0	0.0524	006.2223	004.3999	184.600
50.00	0.363	1.0	0.0330	004.9368	003.1733	185.218
55.00	0.278	1.0	0.0194	003.7818	002.1691	185.902
60.00	0.203	1.0	0.0103	002.7626	001.3813	186.608
65.00	0.15	1.0	0.0056	002.0383	000.8614	187.153
70.00	0.138	1.0	0.0048	001.8793	000.6428	187.234
75.00	0.134	1.0	0.0045	001.8250	000.4723	187.237
80.00	0.141	1.0	0.0050	001.9174	000.3330	187.112
85.00	0.153	1.0	0.0058	002.0750	000.1809	186.933
90.00	0.157	1.0	0.0061	002.1294	000.0000	186.871

EXHIBIT D- 74.1201(g) to WDDW (FM), 74.1233(a)(1) Compliance
W229CQ US Bank Bldg 74-1201g

