



ENGINEERING STUDY
MINOR LICENSE MODIFICATION
K273DN, Kahului, HI

TECHNICAL STATEMENT

This technical statement and attached exhibits were prepared on behalf of Pacific Radio Group, Inc, ("PRG") licensee of K273DN, Facility ID 202650. This proposal is to relocate the translator to a commonly owned PRG tower. The proposed facility will continue to rebroadcast KMVI (AM), facility ID 9678.

Facilities Requested

Location (NAD83)	20° 42' 07.5" N Latitude, 156° 21' 43.9" W Longitude
Channel	273D (102.5MHz)
Tower Overall AGL Height-	45.7m
Tower ASR	N/A (Existing tower owned by Pacific Media Group)
Proposed Antenna	Jampro Java
Antenna AGL Height-	44m
Site AMSL Height-	848m
COR AMSL Height	892m
ERP	99 W Directional (EXHIBIT A)

COMPLIANCE WITH 74.1204(a) [contour overlap]

The translator on channel 273D will be fully compliant with 74.1204(a). A table showing the allocation is attached as Exhibit B.

COMPLIANCE WITH 74.1204(d)

The proposed translator on 273D will be compliant with 74.1204(d). As shown in Exhibit C, there will be no location at ground level where the signal from K273DN will be more than 40dB above the signal from KQMY (271C2).

COMPLIANCE WITH 74.1201(g)

Exhibit D demonstrates that the proposed translator remains entirely contained within the 2mV/m contour of KMVI (AM), Facility ID 9678.

COMPLIANCE WITH 74.1233 [Minor Change]

Exhibit D demonstrates that the proposed K273DN 60dBu contour overlaps the 60dBu of the presently licensed K273DN.

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 273D facility will utilize a Jampro Java log-periodic antenna located at 40m AGL. Based upon the FCC “FM Model for Windows”¹ program using a worst-case ring-stub antenna, the proposed operation will produce 2.8 $\mu\text{W}/\text{cm}^2$ at a distance of 10.2m from the base of the tower at

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

ground level or 1.4% 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 will 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

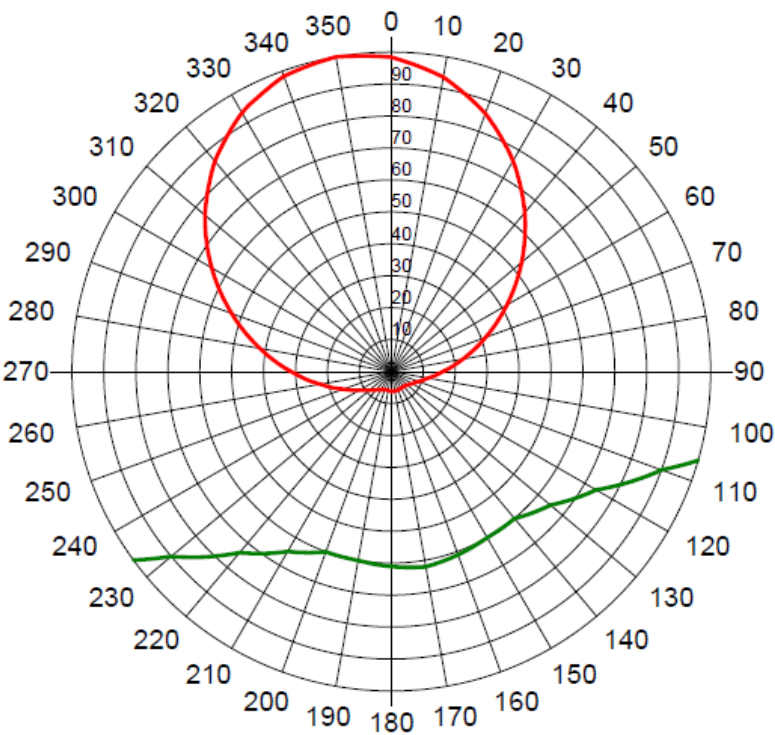
A handwritten signature in cursive script, reading "Bert Goldman". The signature is written in dark ink and is positioned above the printed name.

Bert Goldman

Technical Consultant

EXHIBIT A- ANTENNA PATTERN

PRG Translator pattern



Azi	Rel	dBk	kW	dB	Azi	Rel	dBk	kW	dB
0	0.984	-6.16	0.242	-0.14	180	0.061	-30.31	0.001	-24.29
10	0.936	-6.60	0.219	-0.57	190	0.060	-30.46	0.001	-24.44
20	0.860	-7.33	0.185	-1.31	200	0.060	-30.46	0.001	-24.44
30	0.762	-8.38	0.145	-2.36	210	0.065	-29.76	0.001	-23.74
40	0.650	-9.76	0.106	-3.74	220	0.074	-28.64	0.001	-22.62
50	0.532	-11.50	0.071	-5.48	230	0.090	-26.94	0.002	-20.92
60	0.417	-13.62	0.043	-7.60	240	0.116	-24.73	0.003	-18.71
70	0.313	-16.11	0.024	-10.09	250	0.160	-21.94	0.006	-15.92
80	0.226	-18.94	0.013	-12.92	260	0.226	-18.94	0.013	-12.92
90	0.160	-21.94	0.006	-15.92	270	0.313	-16.11	0.024	-10.09
100	0.116	-24.73	0.003	-18.71	280	0.417	-13.62	0.043	-7.60
110	0.090	-26.94	0.002	-20.92	290	0.532	-11.50	0.071	-5.48
120	0.074	-28.64	0.001	-22.62	300	0.650	-9.76	0.106	-3.74
130	0.065	-29.76	0.001	-23.74	310	0.762	-8.38	0.145	-2.36
140	0.060	-30.46	0.001	-24.44	320	0.860	-7.33	0.185	-1.31
150	0.060	-30.46	0.001	-24.44	330	0.936	-6.60	0.219	-0.57
160	0.061	-30.31	0.001	-24.29	340	0.984	-6.16	0.242	-0.14
170	0.062	-30.17	0.001	-24.15	350	1.000	-6.02	0.250	0.00

Rotation Angle = 0

EXHIBIT B- ALLOCATION STUDY

ComStudy 2.2 search of channel 273 (102.5 MHz Class D) at 20-42-07.5 N, 156-21-43.9 W.

CALL	CITY	ST CHN CL	DIST	SEP	BRNG	CLEARANCE
KQMY	PAIA	HI 271 C2	10.58	0.00	87.5	-22.22 dB Exhibit C
KMNO	WAILUKU	HI 219 C1	14.54	22.00	57.6	-7.5 IF SHORT, 99 Watt limit
KJHF	KUALAPUU	HI 276 C2	58.30	0.00	285.9	0.98 dB
KDDB	WAIPAHU	HI 274 C	195.87	0.00	293.4	18.20 dB
KUCD	PEARL CITY	HI 270 C	195.98	0.00	293.5	30.78 dB
K272GC	HONOLULU	HI 272 D	173.56	0.00	294.1	34.70 dB

LMS as of 7/10/2023

EXHIBIT C- 74.1204(d) Compliance

Compliance to KQMY

K273DN Kahului, HI, Showing Protection to KQMY , Channel: 271
Geographic Coordinates: N. 204207.5 W. 1562143.9
74.1204(d) Study - Using NED 03 SEC Terrain Database
Translator or LPFM Maximum Licensed ERP = 0.099 kW, Channel: 273
Translator or LPFM Antenna Height AG = 44 meters
K273DN Antenna Azimuth Model = Vertical Model Name = JAVA

Protected Station's Contour = 80.72906 dBu
Translator's or LPFM's full Interference contour 120.72906

Review Azimuth = 0 Degrees True
Horizontal Relative Field at Review Azimuth = 1.000
Translator/LPFM ERP on the horizontal at Review Azimuth = 0.099 kW
Distance between stations = 10.6 km
Protected Station= KQMY, .33 kW, 2993 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	0.0990	064.1748	064.1748	040.000
05.00	0.98	1.0	0.0951	062.8913	062.6520	034.519
10.00	0.95	1.0	0.0893	060.9661	060.0399	029.413
15.00	0.895	1.0	0.0793	057.4365	055.4794	025.134
20.00	0.82	1.0	0.0666	052.6233	049.4498	022.002
25.00	0.735	1.0	0.0535	047.1685	042.7492	020.066
30.00	0.645	1.0	0.0412	041.3928	035.8472	019.304
35.00	0.563	1.0	0.0313	036.0983	029.5700	019.295
40.00	0.47	1.0	0.0219	030.1622	023.1056	020.612
45.00	0.36	1.0	0.0128	023.1029	016.3362	023.664
50.00	0.25	1.0	0.0062	016.0437	010.3127	027.710
55.00	0.155	1.0	0.0024	009.9471	005.7054	031.852
60.00	0.085	1.0	0.0007	005.4549	002.7274	035.276
65.00	0.045	1.0	0.0002	002.8879	001.2205	037.383
70.00	0.02	1.0	0.0000	001.2835	000.4390	038.794
75.00	0.01	1.0	0.0000	000.6417	000.1661	039.380
80.00	0.01	1.0	0.0000	000.6417	000.1114	039.368
85.00	0.01	1.0	0.0000	000.6417	000.0559	039.361
90.00	0.01	1.0	0.0000	000.6417	000.0000	039.358

EXHIBIT D- 74.1233 COMPLIANCE

K273DN Lic Vs. Proposed- 99 watts (KMVI-AM)

