May 2024
KIDD(FM) Channel 280A
Fort Mohave, Arizona
Allocation Study

Background

FM station KIDD has previously been authorized to upgrade from Channel 280A to Channel 280C2, with a change of transmitter site. This application proposes operation on Channel 280A. As this can be viewed as either a downgrade from C2 to A, or simply as a Class A site change, only a transmitter site spacing study is necessary.

Transmitter Site Spacing Study

The attached spacing study shows that the proposed Channel 280A transmitter site meets the co-channel and adjacent channel spacing requirements for Class A stations as prescribed in §73.207 of the Commission's Rules.

FMSTUDY.EXE Copyright 2021, Hatfield & Dawson, LLC Version 5.10

SEARCH PARAMETERS FM Database Date: 20240422

Channel: 280A 103.9 MHz

Latitude: 35 10 8.0 (NAD83)

Longitude: 114 38 12.0

Safety Zone: 32 km

Job Title: KIDD 280A FORT MOHAVE

Call Status	City St	FCC File No.	Channel Freq.	ERP(kW) HAAT(m)	Latitude Longitude	Bearing deg-True	Dist (km)	Req (km)
K227DV	BULLHEAD CITY		227D	0.250	DA 35 10 6.0	202.2	0.07	0
LIC	AZ	0000144486	93.3	0.0	114 38 12.0		0.00	TRANS
K277DK	BULLHEAD CITY		277D	0.250	DA 35 14 48.3	311.7	13.02	0
LIC	AZ	0000132214	103.3	0.0	114 44 37.0		0.00	TRANS
KISF	LAS VEGAS		278C	100.000	36 0 28.9	340.4	98.95	95
LIC	NV	BLH-19890310KD	103.5	353.0	115 0 22.9		3.95	CLOSE
NEW	PEACH SPRINGS		280A	0.000	35 33 18.0	70.1	128.78	115
ALC	AZ		103.9	0.0	113 18 1.7		13.78	CLEAR
NOTE:	THE PEACH SPRINGS 280A ALLOTMENT WAS CHANGED TO 287A BY REPORT & ORDER IN MB DOCKET NO. 23-45							
KIDD	FORT MOHAVE		280A	1.000	35 2 24.6	163.5	14.90	115
LIC	AZ	0000193684	103.9	-114.0	114 35 23.9		-100.10	SHORT
KIDD	FORT MOHAVE		280C2	26.000	35 2 24.6	163.5	14.90	166
CP	AZ	0000195603	103.9	-114.0	114 35 23.9		-151.10	SHORT
K280DL	LAKE HAVASU CITY		280D	0.250	DA 34 33 5.0	149.4	79.55	0
LIC	AZ	BLFT-20140716AEV	103.9	0.0	114 11 39.8		0.00	TRANS
K280EH	KINGMAN		280D	0.010	DA 35 6 48.0	94.9	68.86	0
LIC	AZ	BLFT-19960111TP	103.9	0.0	113 53 2.8		0.00	TRANS
K280DD	LAS VEGAS		280D	0.250	DA 36 8 54.8	336.9	118.40	0
LIC	NV	BLFT-20150827AAV	103.9	0.0	115 9 18.0		0.00	TRANS
KVPH	NORTH LAS VEGAS		282C	24.500	35 58 1.8	318.8	118.34	95
LIC	NV	0000233107	104.3	1128.0	115 30 9.0		23.34	CLEAR
K283BZ	PEACH SPRINGS		283D	0.030	35 11 46.3	86.7	55.28	0
CP	AZ	0000156943	104.5	0.0	114 1 50.6		0.00	TRANS

==== END OF FM SPACING STUDY FOR CHANNEL 280 ====

May 2024
KIDD(FM) Channel 280A
Fort Mohave, Arizona
RF Exposure Study

Facilities Proposed

The proposed operation will be on Channel 280A (103.9 MHz) with an effective radiated power of 4.2 kilowatts. Operation is proposed with a 4-element circularly-polarized half-wave-spaced directional antenna. The antenna will be side-mounted on an existing tower with FCC Antenna Structure Registration Number 1237195.

RF Exposure Calculations

The power density calculations shown below were made using the techniques outlined in OET Bulletin No. 65. "Ground level" calculations in this report have been made at a reference height of 2 meters above ground to provide a worst-case estimate of exposure for persons standing on the ground in the vicinity of the tower. The equation shown below was used to calculate the ground level power density figures from each antenna.

$$S(\mu W / cm^2) = \frac{33.4 \times AdjERP(Watts)}{D^2}$$

Where: *AdjERP(Watts)* is the maximum lobe effective radiated power times the element pattern factor times the array pattern factor.

D is the distance in meters from the center of radiation to the calculation point.

Ground level power densities have been calculated for locations extending from the base of the tower to a distance of 500 meters. Values past this point are increasingly negligible.

Calculations of the power density produced by the proposed antenna system assume a Type 1 element pattern, which is the “worst case” element pattern in the Commission’s FMModel software. The highest calculated ground level power density occurs at a distance of 37 meters from the base of the antenna support structure. At this point the power density is calculated to be 4.8 μW/cm², which is 2.4% of 200 μW/cm² (the FCC standard for uncontrolled environments).

These calculations show that the maximum calculated power density produced at two meters above ground level by the proposed operation of KIDD alone is less than 5% of the applicable FCC exposure limit at all locations between 1 and 500 meters from the base of the antenna support structure. Section 1.1307 of the Commission's Rules exempts applications for new facilities or modifications to existing facilities from the requirement of preparing an environmental assessment when the calculated emissions from the applicant's proposed facility are predicted to be less than 5% of the applicable FCC exposure limit. Therefore, the proposed facility is in compliance with Section 1.1301 et seq and no further analysis of RF exposure at this site is required in this application.

The permittee/licensee in coordination with other users of the site must reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency exposure in excess of FCC guidelines.

Nearby AM Stations

As indicated by the AM Tower Locator results on the following page, the proposed KIDD operation will be located nearby to two existing non-directional AM stations, KFLG 1000 kHz Bullhead City and KZZZ 1490 kHz Bullhead City. It is understood that the KIDD licensee will need to notify the licensees of these stations prior to construction of the KIDD facility proposed herein.

It should be noted, however, that the installation of KIDD requires only the installation of the antenna and transmission line up to the 45.7 meter level on an existing 87.5 meter tower.

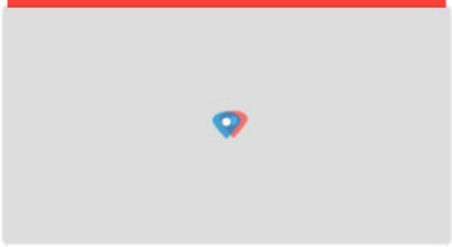
NOTIFY THE STATIONS IN RED.

STATIONS IN GREEN ARE OK.

STATIONS IN BLACK HAVE CONSTRUCTIONS PERMITS AND DO NOT NEED TO BE NOTIFIED UNLESS THE STATION BEGINS OPERATION PRIOR TO YOUR CONSTRUCTION.

KFLG

CAMERON BROADCASTING, INC.



Address
BULLHEAD CITY, AZ, US

Latitude, Longitude
35.169443, -114.634689

Distance
0.19 km

File Number
BL-19920414AB

Hours of Operation
Daytime

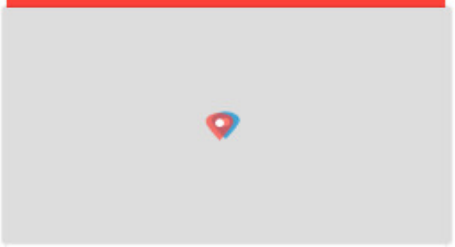
Frequency
1000 kHz

Antenna Mode
NDD - Non-directional Antenna: Daytime only

Station Info | App Info

KZZZ

CAMERON BROADCASTING, INC.



Address
BULLHEAD CITY, AZ, US

Latitude, Longitude
35.168888, -114.638579

Distance
0.17 km

File Number
BL-20070608ADD

Hours of Operation
Daytime

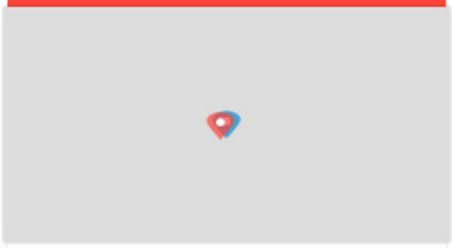
Frequency
1490 kHz

Antenna Mode
ND2 - Non-directional Antenna: Different constants day and night

Station Info | App Info

KZZZ

CAMERON BROADCASTING, INC.



Address
BULLHEAD CITY, AZ, US

Latitude, Longitude
35.168888, -114.638579

Distance
0.17 km

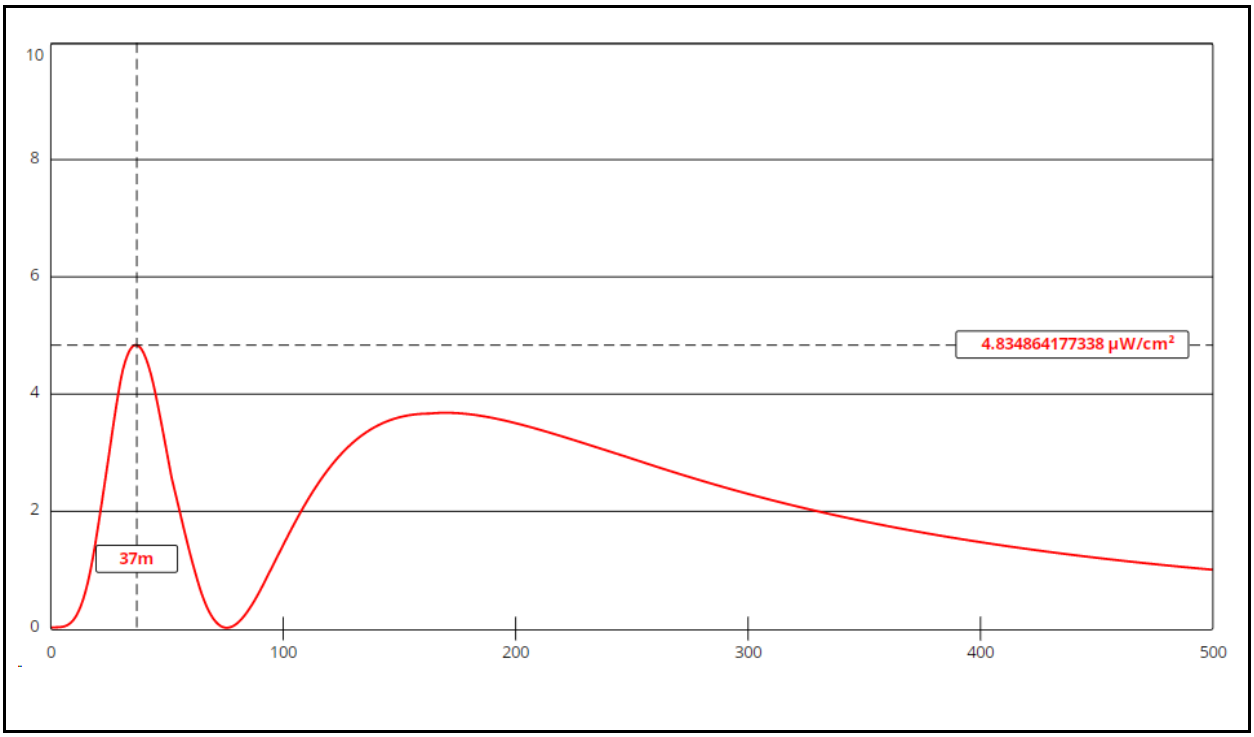
File Number
BL-20070608ADD

Hours of Operation
Nighttime

Frequency
1490 kHz

Antenna Mode
ND2 - Non-directional Antenna: Different constants day and night

Station Info | App Info

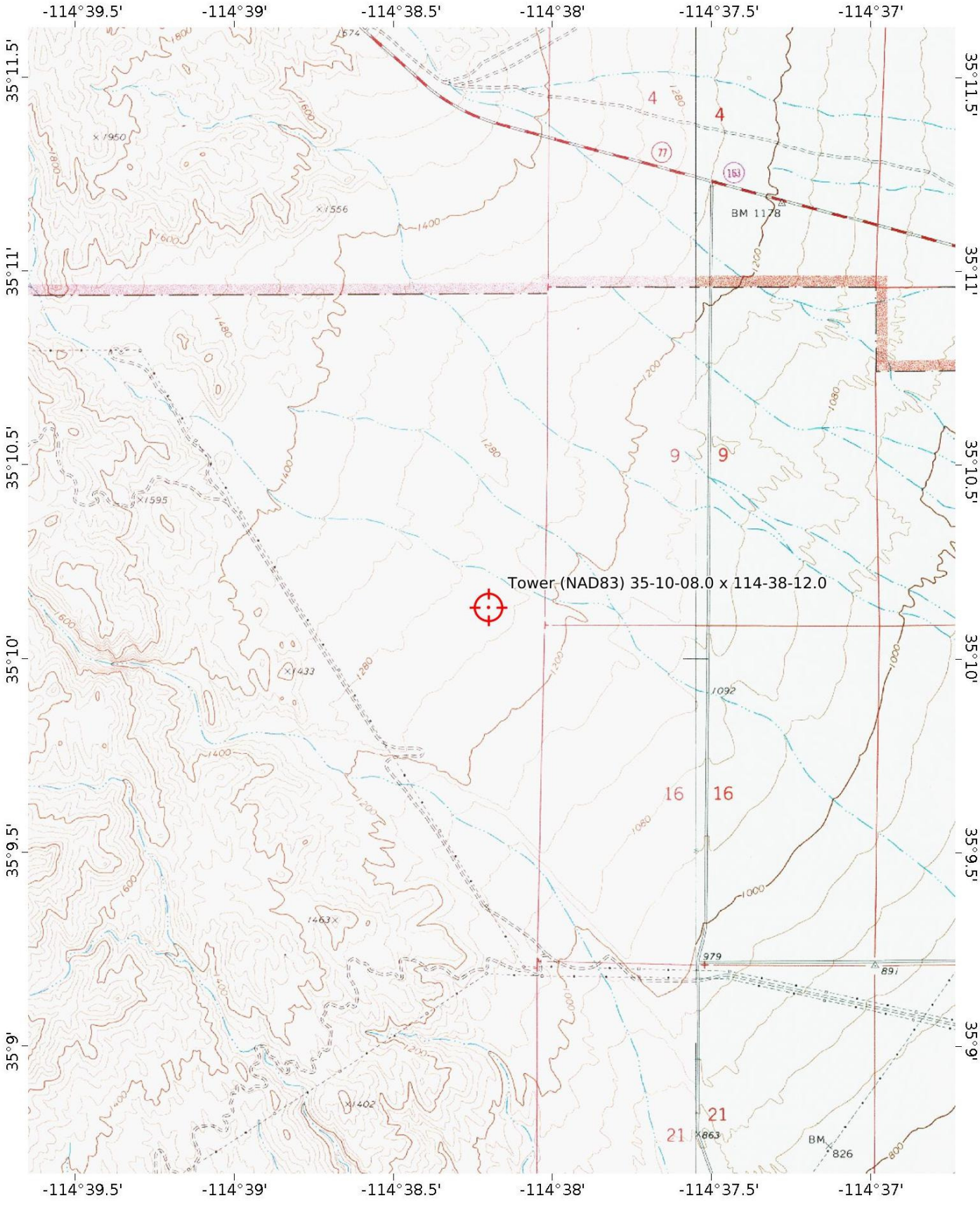


Ground-Level RF Exposure **OET FMModel**

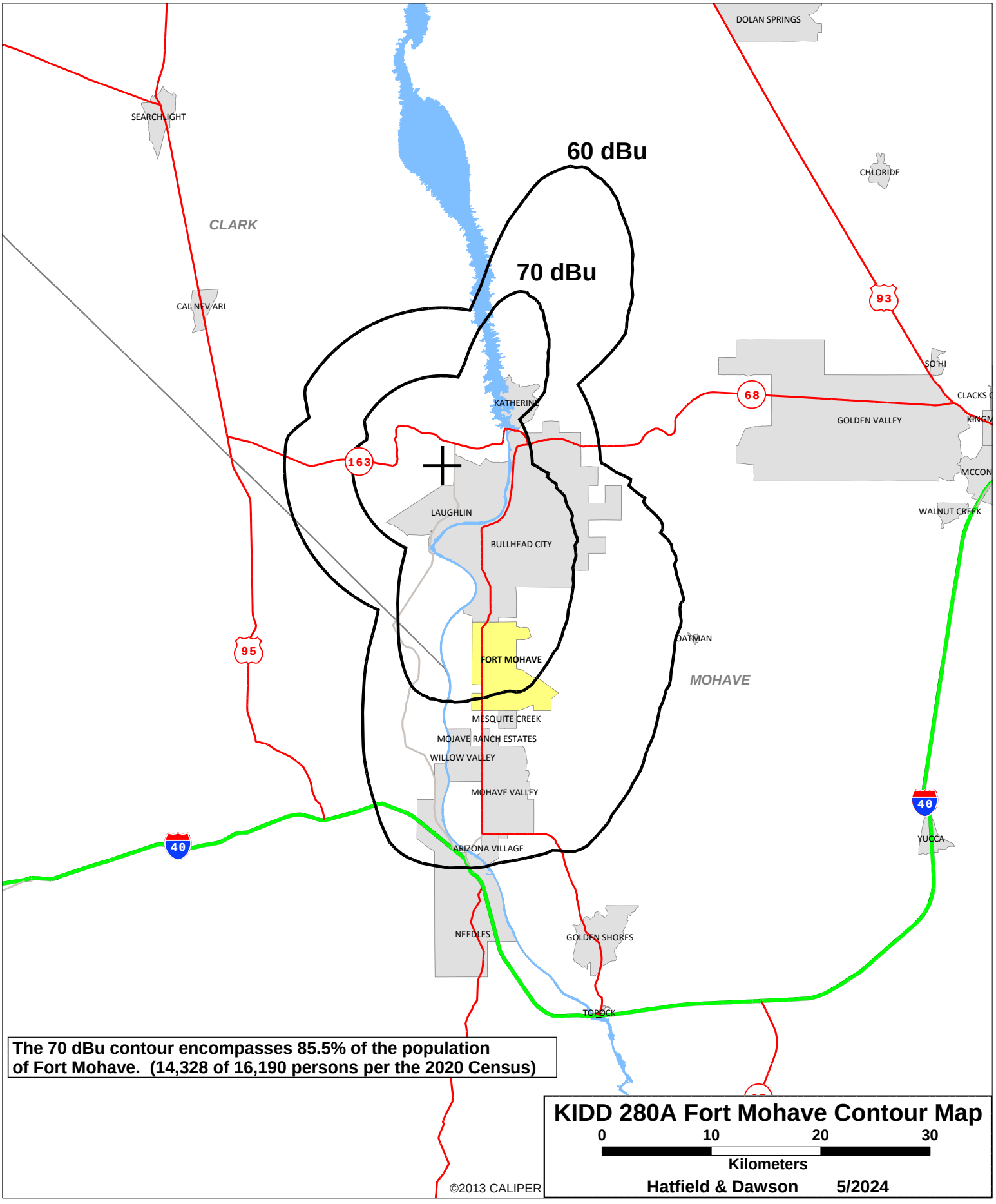
KIDD 280A Fort Mohave

Antenna Type:	Type 1 assumed
No. of Elements:	4
Element Spacing:	0.5 wavelength
Distance:	500 meters
Horizontal ERP:	4.2 kW
Vertical ERP:	4.2 kW
Antenna Height:	45.7 meters AGL

Maximum Calculated Power Density is 4.8 µW/cm^2 at 37 meters from the antenna structure.



Hatfield & Dawson Consulting Engineers


60 dBu
70 dBu
DOLAN SPRINGS
SEARCHLIGHT
CHLORIDE
CLARK
CAL NEV ARI
93
SO HI
68
CLACKS C
KINGM
KATHERINE
GOLDEN VALLEY
163
MCCON
WALNUT CREEK
LAUGHLIN
BULLHEAD CITY
95
DATMAN
FORT MOHAVE
MOHAVE
MESQUITE CREEK
MOJAVE RANCH ESTATES
WILLOW VALLEY
MOHAVE VALLEY
40
YUCCA
ARIZONA VILLAGE
NEEDLES
GOLDEN SHORES
TOPOCK
The 70 dBu contour encompasses 85.5% of the population
of Fort Mohave. (14,328 of 16,190 persons per the 2020 Census)
KIDD 280A Fort Mohave Contour Map
0 10 20 30
Kilometers
Hatfield & Dawson 5/2024
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