EXHIBIT A

ENGINEERING STATEMENT

The engineering data contained herein have been prepared on behalf of KAILUA TELEVISION, LLC, permittee of full-power digital television station KKAI-DT, Channel 29 in Kailua, Hawaii, in support of this amendment to LMS-0000129458, an application for modification of authorized repack Construction Permit LMS-0000122853. This distributed transmission system (DTS) facility is comprised of the presently licensed operation of KKAI-DT (LMS-0000122853), as well as operation of DTS transmitter node (DTS-2) at a site located within the KKAI-DT noise-limited service contour. The purpose of this amendment is to specify a new site for DTS-2. The new site is to be located at Mauna Kapu (the original antenna farm on which the original pre-repack DTS-2 facility of KKAI-DT was located).

Below are operating parameters for the main and DTS-2 facilities:

KKAI-DT MAIN TRANSMITTER SITE (REFERENCE SITE)

Site Name : Pu'u Papa'a

Site Coordinates (NAD83) : 21-25-19.6 N, 157-45-27.1 W

Tower ASRN : 1246610

Ground Elevation : 141.7 meters

Overall Tower Height Above Ground : 35.4 meters

Antenna Radiation Center Above Ground : 25.9 meters

Antenna Radiation Center Above Mean Sea Level : 167.6 meters

Effective Radiated Power : 40.0 kW (H-only)

Antenna Make/Model : Aldena US-Peanut

Antenna ID : 1007391

Type : Horizontally Polarized, Directional

Electrical Beam Tilt : 0 degrees

Orientation : 0 degrees true

EXHIBIT A

KKAI-DT DTS-2 TRANSMITTER SITE

Site Name : Mauna Kapu

Site Coordinates (NAD83) : 21-24-11.0 N, 158-05-52.4 W

Tower ASRN : none

Ground Elevation : 822.3 meters

Overall Tower Height Above Ground : 20.4 meters

Antenna Radiation Center Above Ground : 17.0 meters

Antenna Radiation Center Above Mean Sea Level : 839.3 meters

Effective Radiated Power : 29.6 kW

Antenna Make/Model : Aldena 6-bay

Type : Horizontally Polarized, Directional (Very Narrow Cardioid Pattern)

Electrical Beam Tilt : 0 degrees

Orientation : 100 degrees true

Exhibit B-1 is a map upon which the predicted service contours of presently authorized KKAI-DT are plotted. As shown, the community of Kailua is completely encompassed by the 48 dBu city-grade service contour of the main (reference) KKAI-DT facility. Exhibit B-2 is a map upon which the predicted service contours of the newly proposed DTS-2 facility are plotted. Exhibit B-3 is a map which shows the combined coverage of the main and DTS-2 facilities. Since it is intended to utilize authorized KKAI-DT as the reference facility for the DTS operation, it is clear that the DTS facility will cover all of the area presently authorized to be served by the reference station, as required by Commission Rules.

EXHIBIT A

As shown in Exhibit B-4, the entire coverage of the KKAI-DT DTS facility proposed herein lies within the allowable 103-kilometer FCC Table of Distances arc extending from the KKAI-DT reference site.

Elevation and azimuth pattern information for the reference (authorized) KKAI-DT and DTS-2 antennas are provided in Exhibits C-1 and C-2, respectively.

We conducted a TVStudy interference study for the proposed DTS facility, using a cell size of 2 kilometers and increment spacing of 1.0 kilometer. The results are provided in Exhibit D. It concludes that the proposed KKAI-DT DTS facility on Channel 29 meets the Commission's *de minimis* interference criteria to all co-channel and adjacent-channel pre-repack full-power and Class A facilities.

Power density calculations for both the main (reference) site and the DTS-2 sites appear in Exhibit E.

As a result of these showings, it is believed that the proposed DTS-2 facility meets all of the requirements of Section 73.626(f) of the Commission's DTS Rules as follows:

(1) The combined coverage from the two DTS transmitters covers all of the presently authorized KKAI-DT service area.

(2) All of the DTS facilities coverage is contained within the KKAI-DT Table of Distances area defined by the allowable 103-kilometer arc from the reference site.

(3) Each DTS transmitter's coverage is contiguous with the other DTS transmitter's coverage.

(4) The coverage from one or more DTS transmitter(s) is shown to provide principal community coverage over Kailua, Hawaii, as required by FCC Rules

(5) The combined field strength of all the DTS transmitters in the network does not cause interference to another station in excess of the criteria specified in § 73.616.

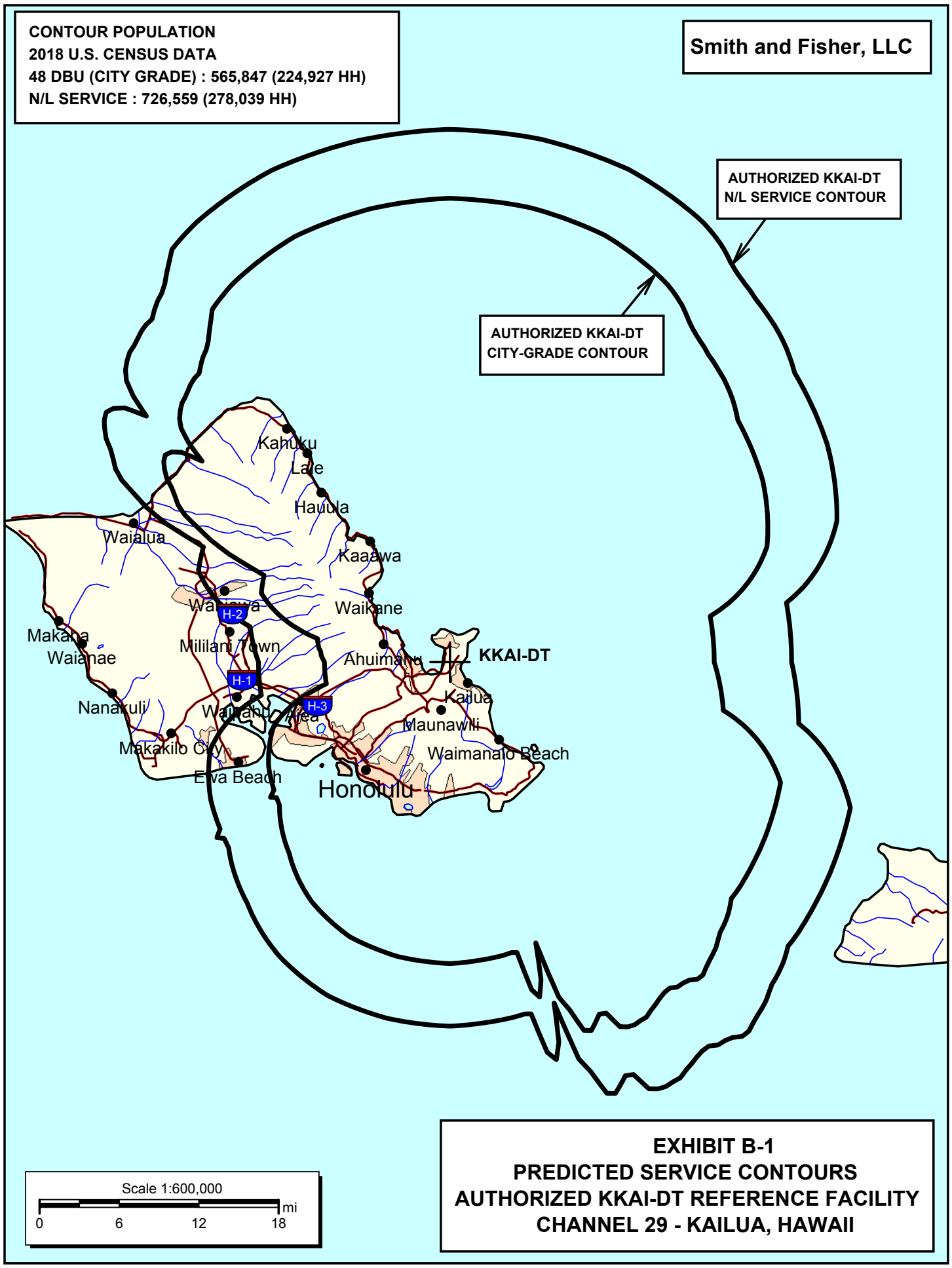
(6) Each DTS transmitter is located within the KKAI-DT Table of Distances area and/or its authorized service area.

EXHIBIT A

I declare under penalty of perjury that the foregoing statements and the attached exhibits, which were prepared by me or under my immediate supervision, are true and correct to the best of my knowledge and belief.

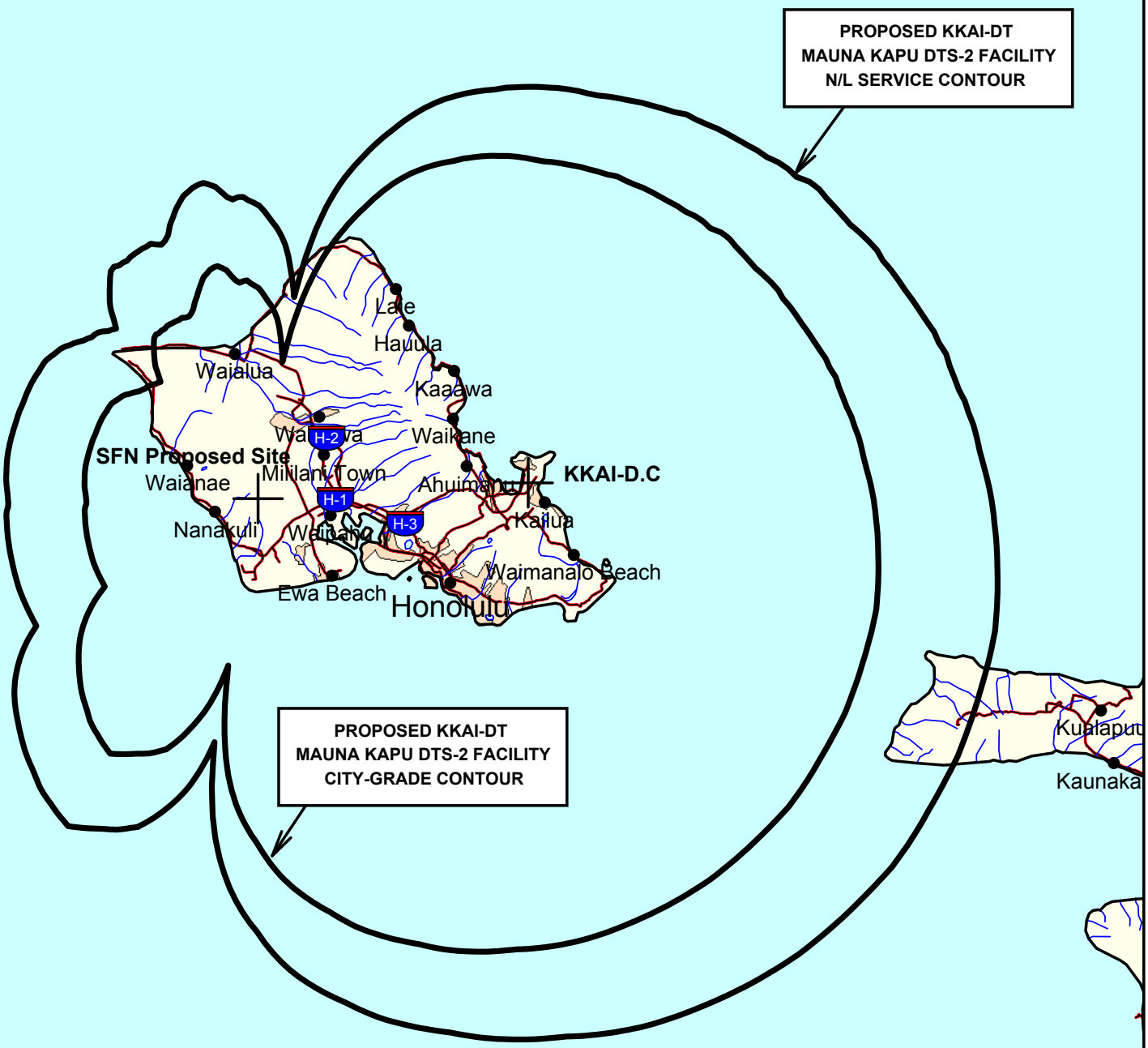
KEVIN T. FISHER

May 5, 2021


CONTOUR POPULATION
2018 U.S. CENSUS DATA
48 DBU (CITY GRADE) : 565,847 (224,927 HH)
N/L SERVICE : 726,559 (278,039 HH)
Smith and Fisher, LLC
AUTHORIZED KKAI-DT
N/L SERVICE CONTOUR
AUTHORIZED KKAI-DT
CITY-GRADE CONTOUR
Kahuku
Laie
Hauula
Waialua
Kaaawa
Waikane
Makaha
Waianae
Mililani Town
Ahuimanu
KKAI-DT
Kaneohe
Nanakuli
Maunawili
Makakilo City
Waimanalo Beach
Ewa Beach
Honolulu
H-1
H-2
H-3
Scale 1:600,000
mi
0
6
12
18
EXHIBIT B-1
PREDICTED SERVICE CONTOURS
AUTHORIZED KKAI-DT REFERENCE FACILITY
CHANNEL 29 - KAILUA, HAWAII

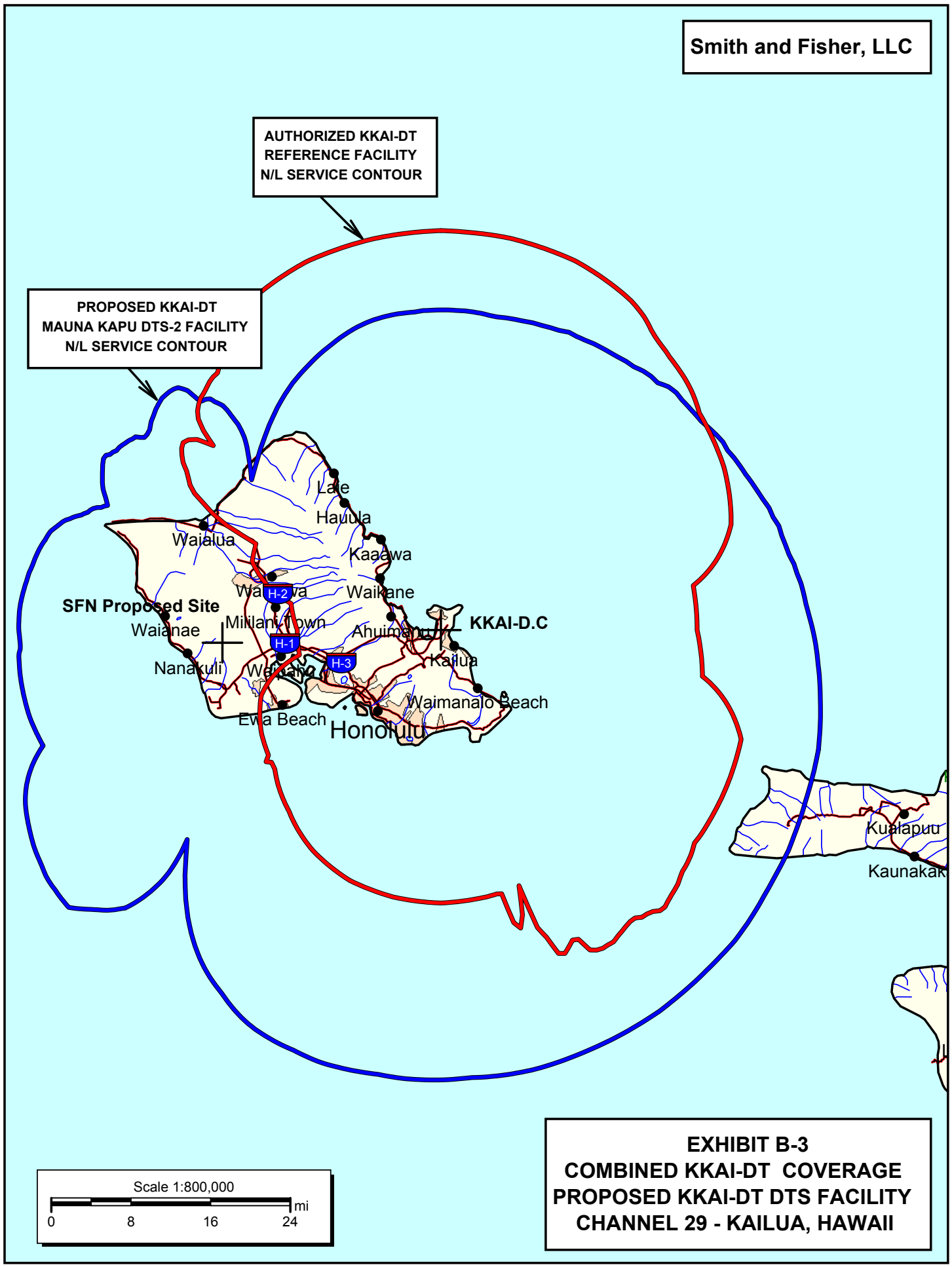
CONTOUR POPULATION
2018 U.S. CENSUS DATA
48 DBU (CITY GRADE) : 975,809 (350,631 HH)
N/L SERVICE : 979,888 (352,925 HH)

Smith and Fisher, LLC



Scale 1:800,000
0 8 16 24 mi

EXHIBIT B-2
PREDICTED SERVICE CONTOURS
PROPOSED MAUNA KAPU DTS-2 FACILITY
CHANNEL 29 - KAILUA, HAWAII


Smith and Fisher, LLC
AUTHORIZED KKAI-DT
REFERENCE FACILITY
N/L SERVICE CONTOUR
PROPOSED KKAI-DT
MAUNA KAPU DTS-2 FACILITY
N/L SERVICE CONTOUR
Lale
Hauula
Waialua
Kaaawa
Waiahuwa
Waikane
SFN Proposed Site
Waianae
Mililani Town
Ahuimanu
KKAI-D.C
Nanakuli
Waipahu
Kailua
Waimanalo Beach
Ewa Beach
Honolulu
H-1
H-2
H-3
Kualapuu
Kaunakak
Scale 1:800,000
0
8
16
24
mi
EXHIBIT B-3
COMBINED KKAI-DT COVERAGE
PROPOSED KKAI-DT DTS FACILITY
CHANNEL 29 - KAILUA, HAWAII

Smith and Fisher, LLC

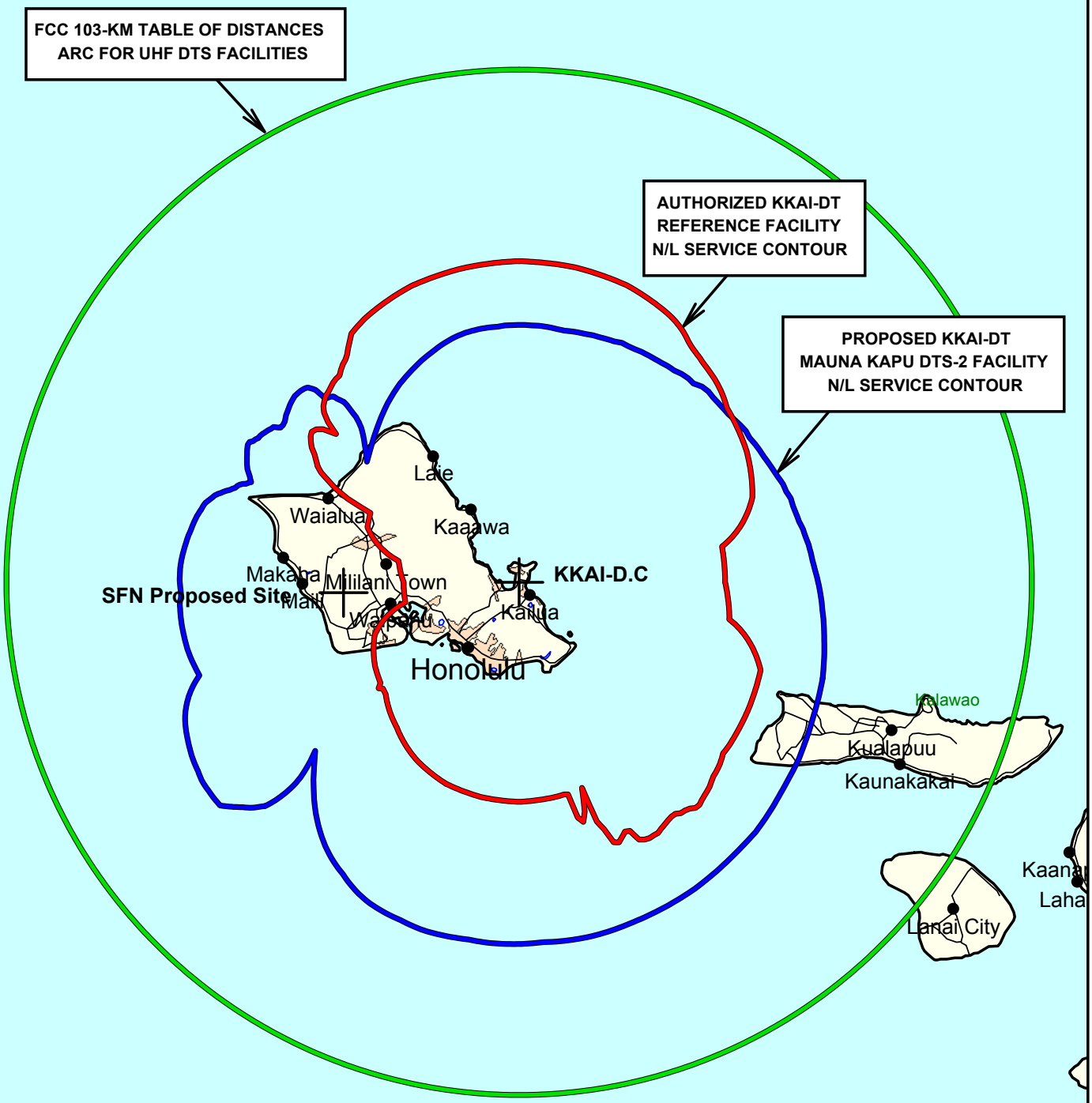


EXHIBIT B-4
PROPOSED KKAI-DT DTS COVERAGE WITHIN 103-KM TABLE OF DISTANCES ARC

26/09/2020 18:07:17

TX station: KKAI-Main
Frequency: 563.00 MHz Gain solid integration : enabled

Locality: US - Peanut

Antennas arrays data

Note: calculation of single antennas arrays data (without taking into account mutual effects)

A. Antennas array azimuth (°/N)	0	180
B. Number of antennas	4	4
C. Nominal power supply (W)	0.50	0.50
D. Losses (addit. + cables) (dB)	0.0	0.0
E. Effective power supply (W)	0.50	0.50
F. Theor. maximum gain (dBd)	16.62	16.62
G. Distribution losses (dB)	0.00	0.00
H. Nominal max gain F - G (dBd)	16.62	16.62
I. Compensation losses (dB)	0.00	0.00
J. Effec. max gain H - I (dBd)	16.62	16.62
K. Effec. max gain (times)	45.90	45.90
L. Effec. max power E * K (KW)	0.0229	0.0229
M. Max power depr. angle (°)	0.0	0.0
N. Max power az. angle (°)	0	180

Diagram in dBK calculated at horizon

Az. (°/N)	dBK	Az. (°/N)	dBK	Az. (°/N)	dBK	Az. (°/N)	dBK
0	-15.8	90	-36.4	180	-15.8	270	-36.4
10	-16.1	100	-35.1	190	-16.1	280	-35.1
20	-16.9	110	-27.6	200	-16.9	290	-27.6
30	-18.8	120	-26.6	210	-18.8	300	-26.6
40	-21.9	130	-25.9	220	-21.9	310	-25.9
50	-25.1	140	-21.9	230	-25.1	320	-21.9
60	-26.6	150	-18.8	240	-26.6	330	-18.8
70	-29.1	160	-17.0	250	-29.1	340	-17.0
80	-36.4	170	-16.2	260	-36.4	350	-16.2

Diagram in dBK calculated at horizon (without -20dB\'s lower limit vs maximum power)

Az. (°/N)	dBK	Az. (°/N)	dBK	Az. (°/N)	dBK	Az. (°/N)	dBK
0	-15.8	90	-42.6	180	-15.8	270	-42.6
10	-16.1	100	-35.1	190	-16.1	280	-35.1
20	-16.9	110	-27.6	200	-16.9	290	-27.6
30	-18.8	120	-26.6	210	-18.8	300	-26.6
40	-21.9	130	-25.9	220	-21.9	310	-25.9
50	-25.1	140	-21.9	230	-25.1	320	-21.9
60	-26.6	150	-18.8	240	-26.6	330	-18.8
70	-29.1	160	-17.0	250	-29.1	340	-17.0
80	-38.2	170	-16.2	260	-38.2	350	-16.2

EXHIBIT C-1

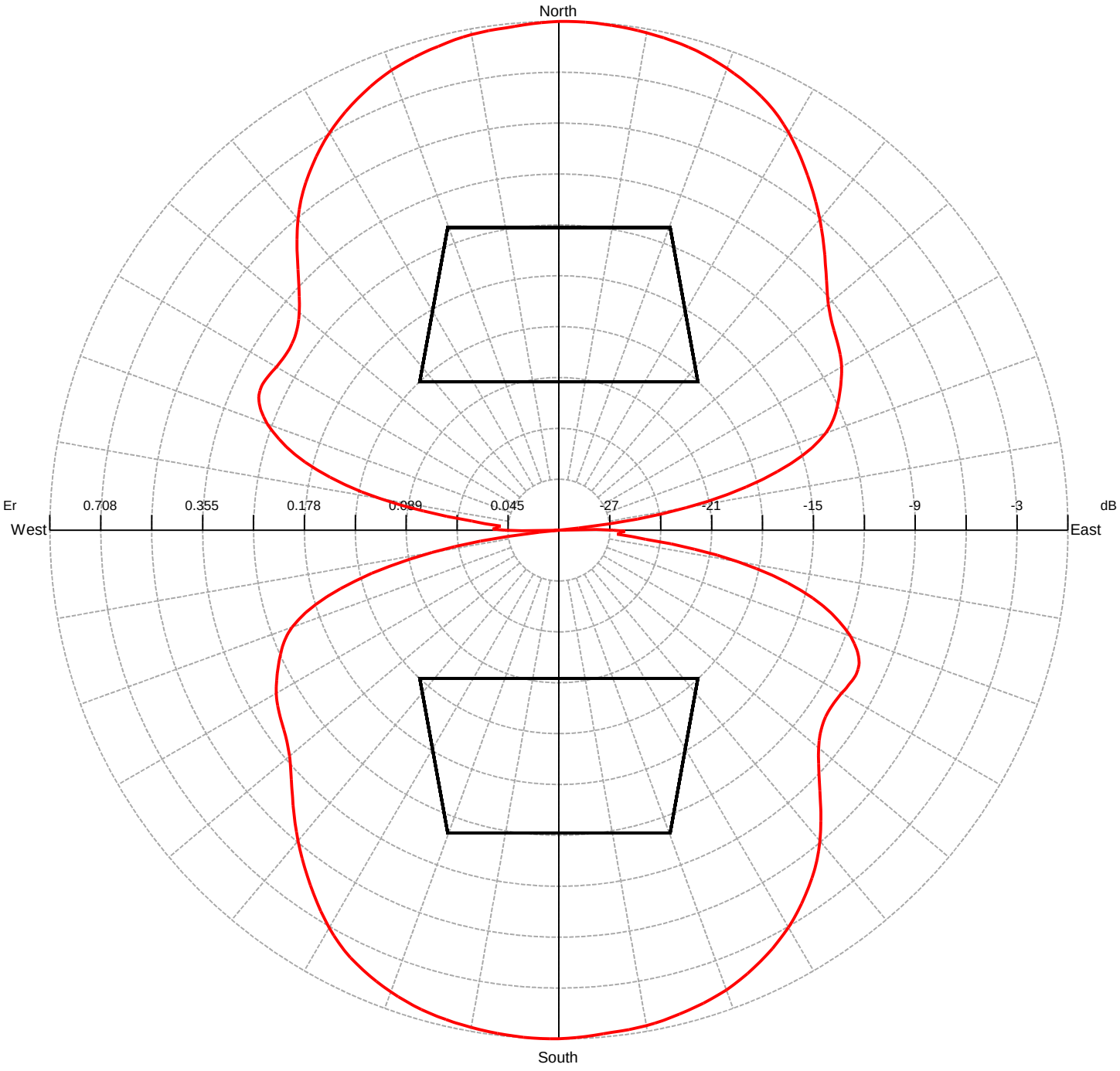
26/09/2020 18:07:17

TX station: KKAI-Main

Locality: US - Peanut

Frequency: 563.00 MHz Gain
solid integration : enabled

Horizontal diagram at 0.0° depres. (Total Antenna)



0.0° depres. (Total Antenna), Gain (dBd): 14.16 ERP T.Max(KW): 0.026 ERP E.Max(KW): 0.026

EXHIBIT C-1

26/09/2020 18:07:17

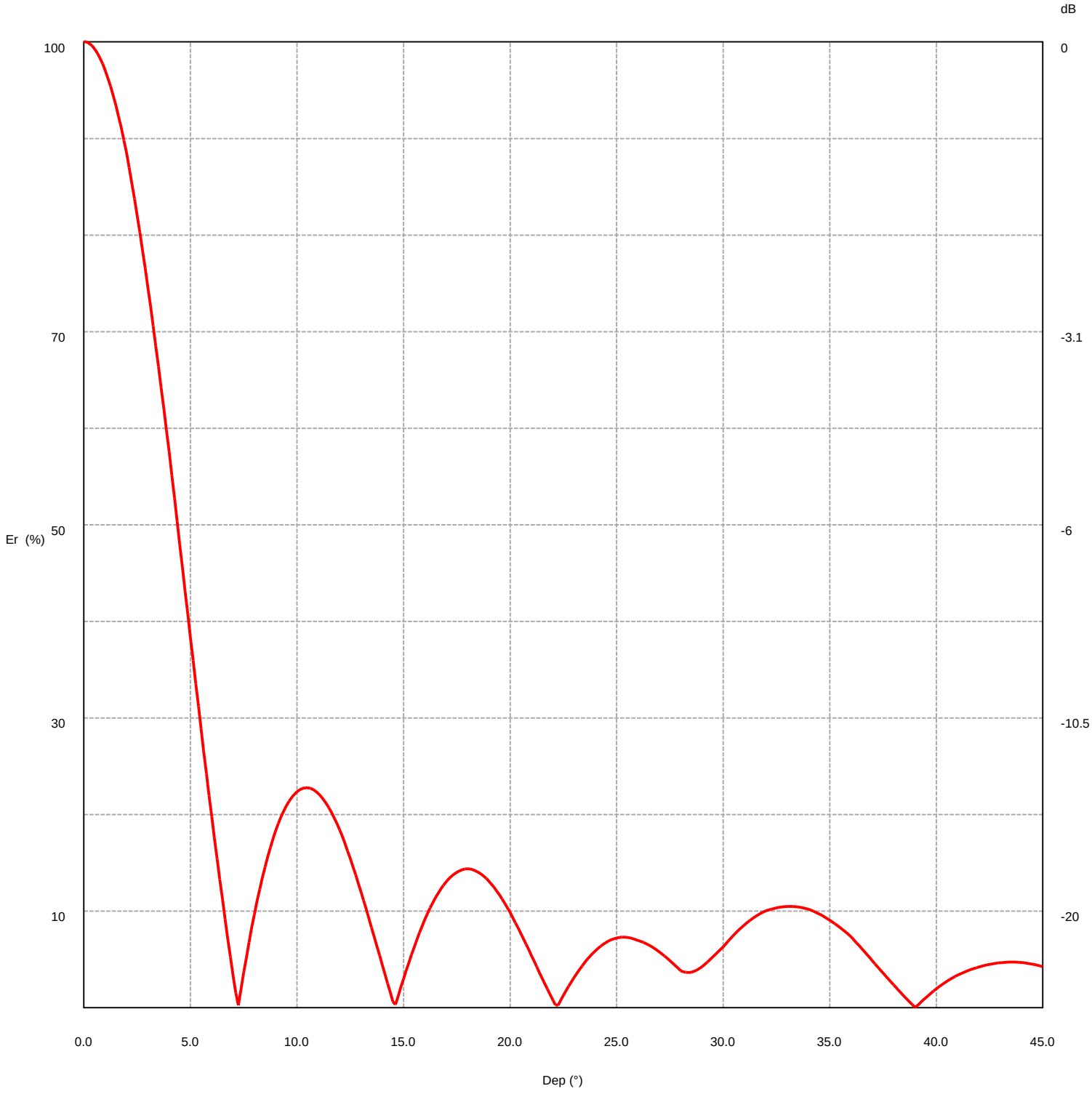
TX station: KKAI-Main

Locality: US - Peanut

Frequency: 563.00 MHz Gain

solid integration : enabled

Vertical diagram at an azimuth of 0.0° degrees

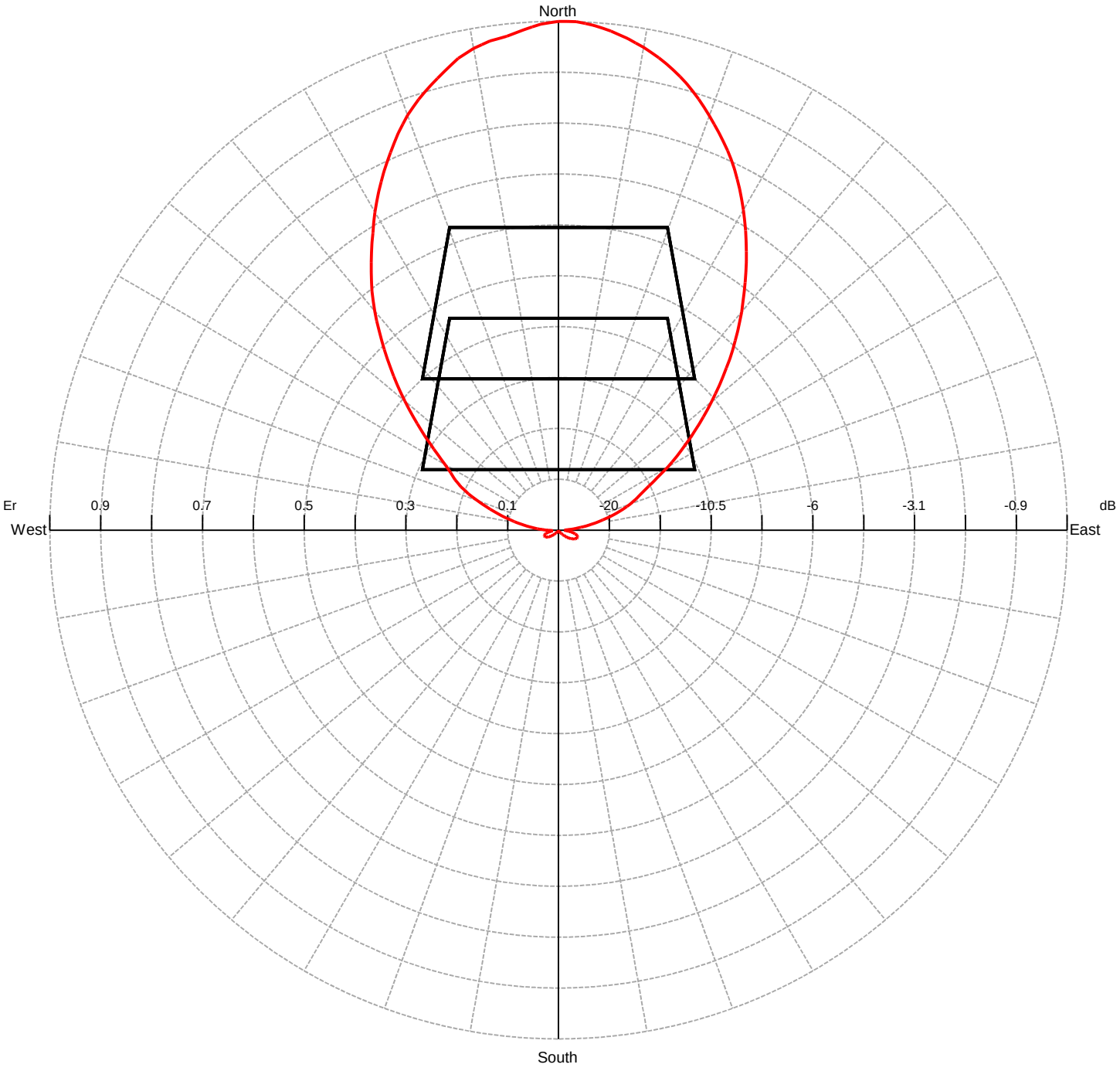


0.0° Az. (Total Antenna), Gain (dBd): 14.15 ERP T.Max(KW): 0.026 ERP E.Max(KW): 0.026

TX station: Rachine
Frequency: 521.00 MHz
Gain solid integration : enabled

Locality: Very Narrow Cardioid - 6 bay

Horizontal diagram at 0.0° depres. (Total Antenna)



0.0° depres. (Total Antenna), Gain (dBd): 18.74

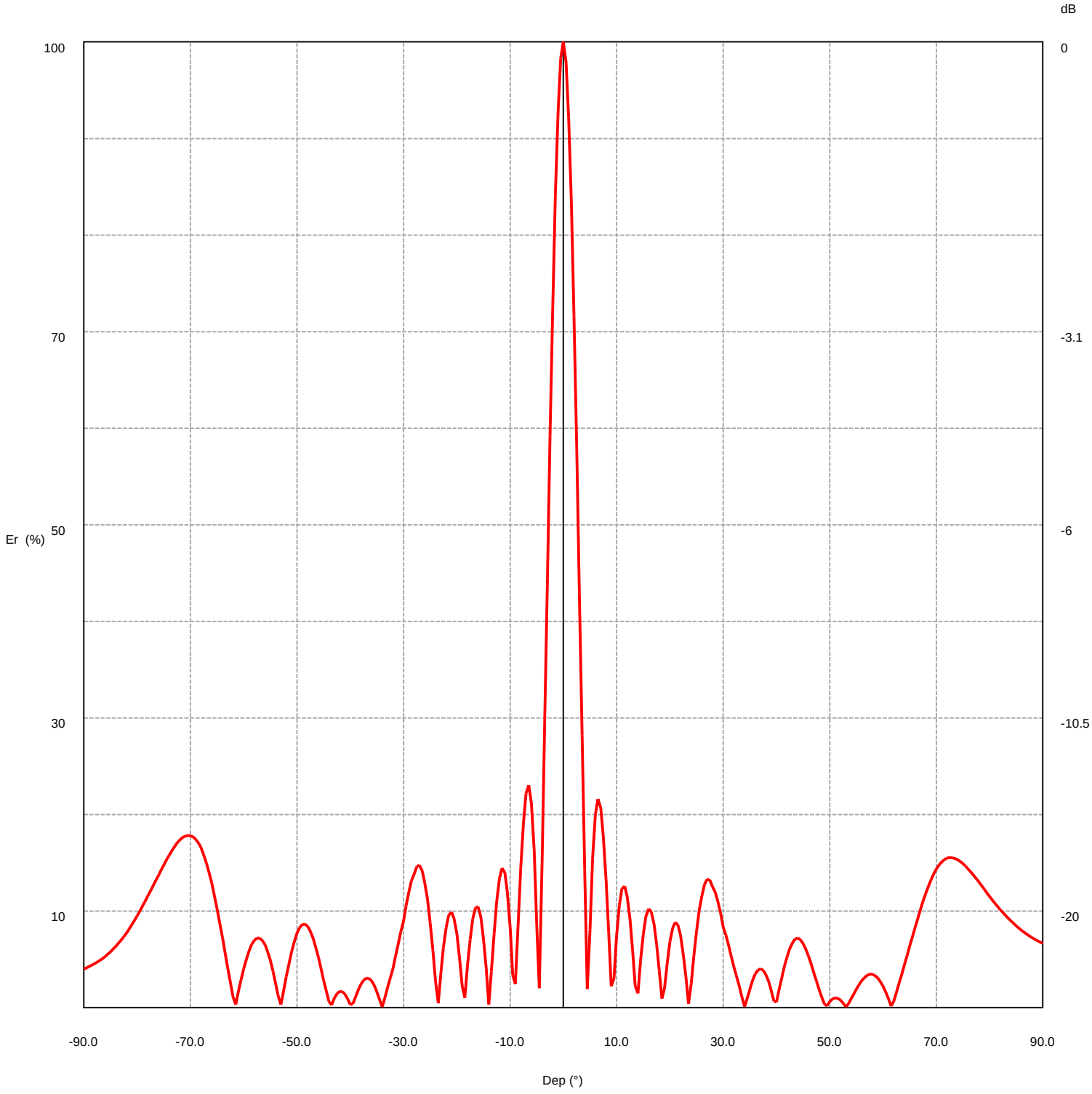
ERP T.Max(KW): 74.774 ERP E.Max(KW): 74.774

EXHIBIT C-2

TX station: Rachine
Frequency: 521.00 MHz
Gain solid integration : enabled

Locality: Very Narrow Cardioid - 6 bay

Vertical diagram at an azimuth of 0.0° degrees



0.0° Az. (Total Antenna), Gain (dBd): 18.74

ERP T.Max(KW): 74.771 ERP E.Max(KW): 74.771

EXHIBIT D

TVSTUDY INTERFERENCE ANALYSIS RESULTS
PROPOSED KKAI-DT DTS FACILITY
CHANNEL 29 – KAILUA, HAWAII
[AMENDMENT TO LMS-0000129458]

Study created: 2021.05.05 11:38:55

Study build station data: LMS TV 2021-04-01
Proposal: KKAI D29 DD APP KAILUA, HI
File number: BLANK0000129458
Facility ID: 83180
Station data: User record
Record ID: 1028
Country: U.S.
Zone: II
Ref. lat.: 21 25 19.60 N
Ref. long.: 157 45 27.10 W
DTS sites: 2

No protected stations found.

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied, DTS site # 1:

Channel: D29
Latitude: 21 25 19.60 N (NAD83)
Longitude: 157 45 27.10 W
Height AMSL: 167.6 m
HAAT: 373.0 m
Peak ERP: 40.0 kW
Antenna: Aldena-US-Peanut (ID 1007391) 0.0 deg
Elev Pattrn: Generic

40.2 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	40.0 kW	166.8 m	64.5 km
45.0	7.02	165.8	56.2
90.0	0.346	167.6	41.3
135.0	6.53	154.4	55.0
180.0	40.0	-10.3	44.2
225.0	7.02	-67.1	36.8
270.0	0.346	-107.1	23.4
315.0	6.53	140.4	54.1

Database HAAT does not agree with computed HAAT
Database HAAT: 373 m Computed HAAT: 76 m

Record parameters as studied, DTS site # 2:

Channel: D29
Latitude: 21 24 11.00 N (NAD83)
Longitude: 158 5 52.40 W
Height AMSL: 839.3 m
HAAT: 687.5 m
Peak ERP: 29.6 kW
Antenna: Aldena 6-Bay Very Narrow Cardioid 0.0 deg
Elev Pattrn: Generic

40.2 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	0.027 kW	406.3 m	38.0 km
45.0	3.03	579.4	72.7
90.0	27.3	748.6	95.6
135.0	12.3	791.6	89.7
180.0	0.145	763.8	56.2
225.0	0.019	784.9	42.9
270.0	0.003	787.9	30.9
315.0	0.003	637.5	29.2

Database HAAT does not agree with computed HAAT
Database HAAT: 688 m Computed HAAT: 687 m

DTS proposal coverage is within reference facility and distance limit

Distance to Canadian border: 4195.4 km

Distance to Mexican border: 4151.1 km

**Proposal is within coordination distance of FCC monitoring station
**Proposal exceeds field strength limit at FCC monitoring station
Conditions at FCC monitoring station: Waipahu HI
DTS site # 2 Bearing: 105.8 degrees Distance: 11.0 km
ERP: 28.2 kW HAAT: 795.3 m Field strength: 84.4 dBu, 16.6 mV/m

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
DTS site # 1 Bearing: 54.7 degrees Distance: 5339.1 km
DTS site # 2 Bearing: 54.7 degrees Distance: 5369.1 km

Study cell size: 2.00 km
Profile point spacing: 1.00 km

Maximum new IX to full-service and Class A: 0.50%
Maximum new IX to LPTV: 2.00%

No IX check failures found.

EXHIBIT E

POWER DENSITY CALCULATION

PROPOSED KKAI-DT DTS FACILITY
CHANNEL 29 – KAILUA, HAWAII
[AMENDMENT TO LMS-0000129458]

Since the FCC considers the possible biological effects of RF transmissions in its environmental determinations, we have studied the matter with respect to this Kailua facility. Below are the calculations for the main and DTS-2 sites:

KKAI-DT Main Reference Site (Pu'u Papa'a)

Employing the methods set forth in OET Bulletin No. 65 and considering a main-lobe effective radiated power of 40.0 kW, an antenna radiation center 25.9 meters above ground, and a vertical relative field value of 10 percent at the steeper elevation angles for the proposed Aldena panel antenna, maximum power density two meters above ground of 0.023 mW/cm2 is calculated to occur near the southern base of the tower. Since this is only 6.1 percent of the 0.37 mW/cm2 reference for uncontrolled environments (areas with public access) surrounding a facility operating on Channel 29 (560-566 MHz), a grant of this proposal may be considered a minor environmental action with respect to public and occupational exposure to non-ionizing electromagnetic radiation.

Further, the station owner will take whatever precautionary steps are necessary, such as reducing power or leaving the air temporarily, to ensure that workers operating in the vicinity of the antenna are not exposed to excessive non-ionizing radiation.

EXHIBIT E

KKAI-DT DTS-2 Site (Mauna Kapu)

Employing the methods set forth in *OET Bulletin No. 65* and considering a main-lobe effective radiated power of 29.6, an antenna radiation center 17 meters above ground, and the specific elevation pattern of the proposed Aldena 6-bay very narrow cardioid antenna, maximum power density two meters above ground of 0.103 mW/cm^2 is calculated to occur 5 meters east-southeast of the base of the tower. Since this is only 27.5 percent of the 0.37 mW/cm^2 reference for uncontrolled environments (areas with public access) surrounding a facility operating on Channel 29 (560-566 MHz), a grant of this proposal may be considered a minor environmental action with respect to public exposure to non-ionizing electromagnetic radiation.

Further, the station owner will take whatever precautionary steps are necessary, such as reducing power or leaving the air temporarily, to ensure that workers operating in the vicinity of the antenna are not exposed to excessive non-ionizing radiation.