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ENGINEERING REPORT

APPLICATION FOR SPECIAL TEMPORARY AUTHORITY

KTCT(AM)

1050 kHz

San Mateo, California

Facility ID 51188

35 kW Night

Radio License Holding SRC LLC

June 2016

Purpose of Application

This Engineering Report has been prepared in support of an application by Radio License Holding SRC LLC (“RLH”) to extend the operation of KTCT(AM) under Special Temporary Authority during nighttime hours at a reduced power of 35 kW. This STA operation is necessary to overcome interference caused by the continued unauthorized operation of cochannel station XED, Mexicali, Mexico.

Allocation Considerations

Nighttime

The requested nighttime operation of KTCT at 35 kW will not enter into the 25% RSS calculation of any licensed domestic or Mexican operation or application, as demonstrated by the Site to Site RSS Calculations exhibit included in this report. Skywave protection of adjacent channel Class A stations WHO and KYW is demonstrated by the included map. There are no cochannel Class A stations in operation in the United States or Canada. Furthermore, the facilities requested meet the allocation standards specified in the Commission’s rules with respect to all domestic facilities.

This application requests extension of the special temporary authority (“STA”) originally granted on June 15, 1999, and extended until recently. The facilities requested in the instant application are identical to those previously authorized, with the exception of the reduced operating power.

The STA was authorized to overcome interference to KTCT from an unauthorized operation of cochannel station XED, Mexicali, BCN. The original STA request was approved after acquiescence from the regulatory authority in Mexico as well as class A co-channel station XEG, Monterrey, NL. #

As originally authorized with 50 kW, the KTCT STA operation did not cause prohibited nighttime interference to any U.S. station, or to any foreign station, with the exception of the non-

As noted below, the STA operation overlaps the notified 0.5 mV/m 50% skywave contour of station XEG. However, XEG does not operate with its internationally notified power level, but with only approximately 10 kW, and does not generate a skywave contour of this magnitude.

operating XEG facility. Subsequently, by agreement with the then-owner of DKNSN (1060 kHz, 10 kW, Chico, CA, Facility ID 40844) that station's operations ceased and the license was terminated, to allow improvement in the KTCT daytime service area. However DKNSN was the major contributor to the nighttime RSS limit to station KIPA, Hilo, HI. As a result of the removal of DKNSN from the KIPA RSS calculation, the 50 kW STA operation of KTCT does enter into the 25% RSS calculation.

The contribution by the KTCT STA toward KIPA can be reduced below the allowable threshold by a reduction in power from 50 kW to 35 kW. Therefore the present STA application specifies operation with 35 kW. Operation with this power is completely consistent with the protection of all other stations with the exception of XEG, as described above.

Additionally, operation of the STA by KTCT, even at the previously authorized 50 kW, contributes less signal to the RSS calculations of several other stations than the licensed 10 kW nighttime facility. Reduction of the STA power level will further reduce these contributions.^{##}

Facilities Proposed

RLH requests authorization to operate KTCT at the presently licensed transmitter site at a power of 35 kW, with the directional antenna pattern specified on the following pages. No tower modification or new tower construction would be required to implement the nighttime operation proposed.

Antenna tower access is restricted by fences with locked gates that are at least 4 meters from the tower bases as required by OET-65. The antenna towers will be posted with warning signs, and all station personnel and contractors will be required to follow appropriate safety procedures before any work is commenced on the antenna tower, including reduction in power or discontinuance of operation before any maintenance work is undertaken.

^{##} For example the 50 kW STA radiated 142 mV/m vs 336 mV/m for the licensed 10 kW nighttime operation to Sparks, 205 vs 395 to Dishman, and 311 vs 354 toward KBLE. Operation with 35 kW will reduce these contributions by a further 16%.

Directional Antenna Parameters Requested

Tower#	Ratio	Phase	Spacing	Orientation	Height	ASR#
1	0.402	-95.2	180.0	80.8	76.9°	1012971
2	1.000	126.6	90.0	81.8	76.9°	1012972
3	1.000	0	0	0	76.9°	1012973
4	0.357	-112.7	90.5	253.3	76.9°	1012974

Overall Tower Height: 62.5 meters

Electrical Tower Height: 61 meters

Power: 35 kW

Theo RMS: 1947.4

Std RMS: 2045.9

Location: 37 39 02 N 122 09 02 W

Site to Site RSS Calculations

Protected Station: KIPA, 1060 kHz - HILO, HI, US [19-41-48 N, 155-03-05 W]
 Standard: FCC Rules (1992 Skywave Propagation Model) [10%]

Current:

Call	Freq (kHz)	Limit (mV/m)	(%)
CKMX/A	1060	1.271	100.0
XEEP/A	1060	1.021	80.3
CB 106-A	1060	0.989	60.7
-----	50%	-----	
HCAK2-A	1060	0.541	28.4
-----	25%	-----	
KYW	1060	0.420	21.2
HJFJ-A	1060	0.348	17.2
KNX	1070	0.333	16.2
XEXXX/A	1060	0.332	16.0
XERDO/A	1060	0.281	13.3
HJMV-A	1060	0.268	12.6
XEG/A	1050	0.251	11.7
*KTCT	1050	0.236	10.9
WLNO	1060	0.227	10.4

Proposed:

Call	Freq (kHz)	Limit (mV/m)	(%)
CKMX/A	1060	1.271	100.0
XEEP/A	1060	1.021	80.3
CB 106-A	1060	0.989	60.7
-----	50%	-----	
HCAK2-A	1060	0.541	28.4
-----	25%	-----	
*KTCT-PRO	1050	0.495	25.0
KYW	1060	0.420	20.6
HJFJ-A	1060	0.348	16.7
KNX	1070	0.333	15.8
XEXXX/A	1060	0.332	15.5
XERDO/A	1060	0.281	13.0
HJMV-A	1060	0.268	12.2
XEG/A	1050	0.251	11.4
WLNO	1060	0.227	10.2

Protected Station: KBLE, 1050 kHz - SEATTLE, WA, US [47-33-49 N, 122-21-35 W]
 Standard: FCC Rules (1992 Skywave Propagation Model) [10%]

Current:

Call	Freq (kHz)	Limit (mV/m)	(%)
CICF/A	1050	8.379	100.0
XEG/A	1050	4.557	54.4
-----	50%	-----	
KFIO	1050	4.075	42.7
CKMX/A	1060	2.717	26.2
CKST/A	1040	2.706	25.2
-----	25%	-----	
*KTCT	1050	2.458	22.2
CFGP/A	1050	2.276	20.1
CKSB/A	1050	1.840	15.9

Proposed:

Call	Freq (kHz)	Limit (mV/m)	(%)
CICF/A	1050	8.379	100.0
XEG/A	1050	4.557	54.4
-----	50%	-----	
KFIO	1050	4.075	42.7
CKMX/A	1060	2.717	26.2
CKST/A	1040	2.706	25.2
-----	25%	-----	
CFGP/A	1050	2.276	20.6
CKSB/A	1050	1.840	16.3
*KTCT-PRO	1050	1.812	15.8

Protected Station: XED/A, 1050 kHz - MEXICALI, BN, MX [32-39-31 N, 115-22-42 W]

Standard: Mexican [10%]

Current:

Call	Freq (kHz)	Limit (mV/m)	(%)
XEG/A	1050	15.873	100.0
-----	50%	-----	-----
XENVA2/A	1050	4.629	29.2
-----	25%	-----	-----
XENVA2/A	1050	2.820	17.1

Proposed:

Call	Freq (kHz)	Limit (mV/m)	(%)
XEG/A	1050	15.873	100.0
-----	50%	-----	-----
XENVA2/A	1050	4.629	29.2
-----	25%	-----	-----
XENVA2/A	1050	2.820	17.1
*KTCT-PRO	1050	2.561	15.3

Protected Station: CICF/A, 1050 kHz - VERNON, BC, CA [50-17-20 N, 119-16-26 W]

Standard: Canadian (Figure 4) [10%]

Current:

Call	Freq (kHz)	Limit (mV/m)	(%)
CFGP/A	1050	7.538	100.0
CKSB/A	1050	5.182	68.7
KBLE	1050	4.908	53.7
-----	50%	-----	-----
KFIO	1050	4.070	39.2
-----	25%	-----	-----
XEG/A	1050	2.650	23.8
*KTCT	1050	2.186	19.1
KMTA	1050	1.599	13.7
CJNB/A	1050	1.504	12.8

Proposed:

Call	Freq (kHz)	Limit (mV/m)	(%)
CFGP/A	1050	7.538	100.0
CKSB/A	1050	5.182	68.7
KBLE	1050	4.908	53.7
-----	50%	-----	-----
KFIO	1050	4.070	39.2
-----	25%	-----	-----
XEG/A	1050	2.650	23.8
KMTA	1050	1.599	14.0
CJNB/A	1050	1.504	13.0
*KTCT-PRO	1050	1.241	10.6

Protected Station: KLHT, 1040 kHz - HONOLULU, HI, US [21-20-10 N, 157-53-33 W]

Standard: FCC Rules (1992 Skywave Propagation Model) [10%]

Current:

Call	Freq (kHz)	Limit (mV/m)	(%)
CKST/A	1040	2.363	100.0
-----	50%	-----	-----
WHO	1040	0.881	37.3
-----	25%	-----	-----
ZYK537-A	1040	0.588	23.3
NEW SANGER	1040	0.492	19.0
TIAC-A	1040	0.324	12.3
OBX40-A	1040	0.294	11.1

Proposed:

Call	Freq (kHz)	Limit (mV/m)	(%)
CKST/A	1040	2.363	100.0
-----	50%	-----	-----
WHO	1040	0.881	37.3
-----	25%	-----	-----
ZYK537-A	1040	0.588	23.3
NEW SANGER	1040	0.492	19.0
*KTCT-PRO	1050	0.459	17.4
TIAC-A	1040	0.324	12.1
OBX40-A	1040	0.294	10.9

KTCT

Freq: 1050 kHz

Class: B

Latitude: 37-39-02 N

Longitude: 122-09-02 W

Power: 35 kW

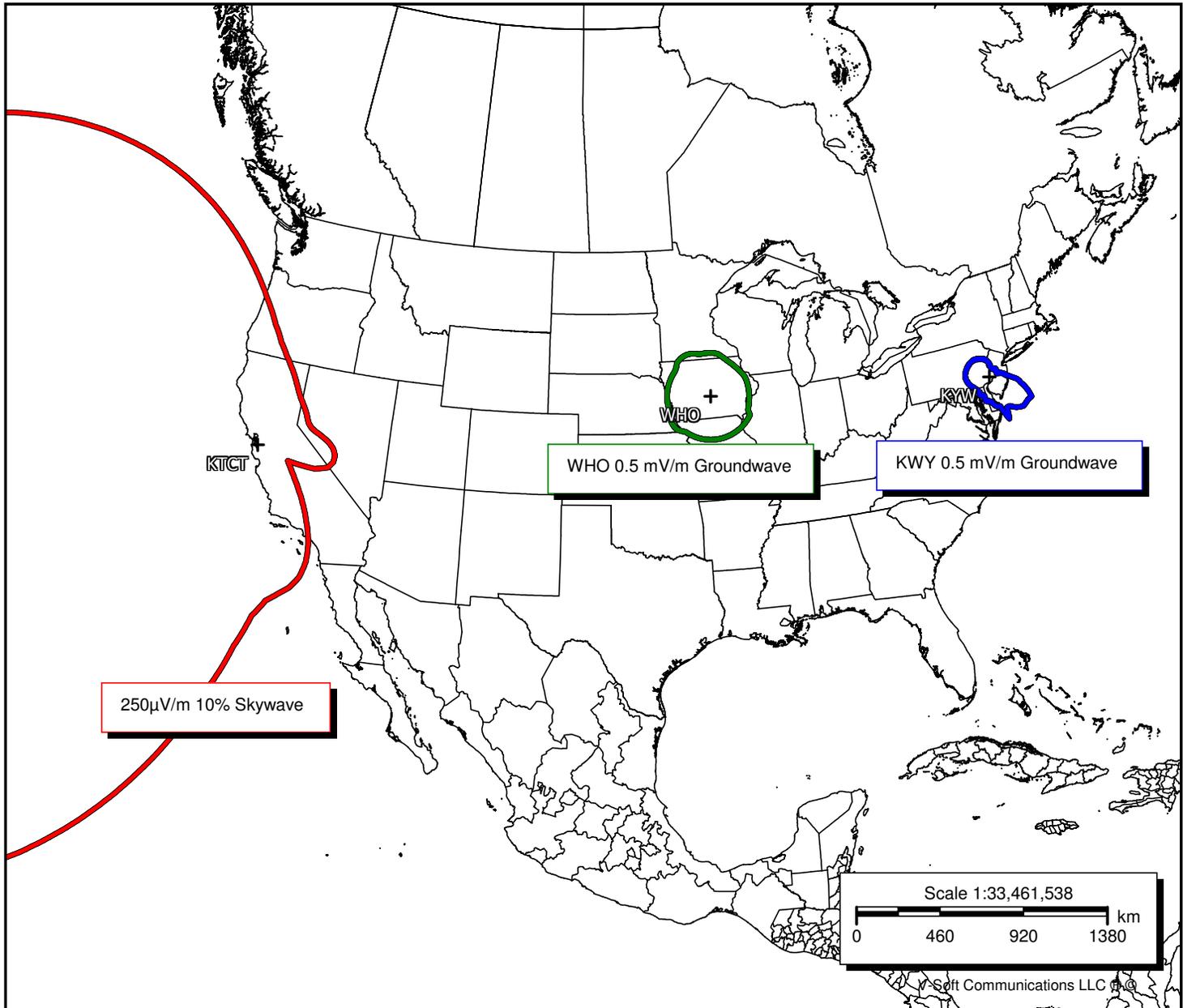
RMS: 1947.432 mV/m @1km

Towers: 4

Augs: 0

Skywave Protection
of Class A Stations

KTCT-STA



KTCT

WHO +

KWY +

WHO 0.5 mV/m Groundwave

KWY 0.5 mV/m Groundwave

250µV/m 10% Skywave

Scale 1:33,461,538

0 460 920 1380 km

Soft Communications LLC

KTCT

Freq: 1050 kHz

Class: B

Latitude: 37-39-02 N

Longitude: 122-09-02 W

Power: 35 kW

RMS: 1947.432 mV/m @1km

Towers: 4

Augs: 0

Skywave Protection of
Class A Station XEG
with XEG operating
at 10 kW

KTCT

KTCT 35 kW STA
25 μ V/m 10%
Skywave

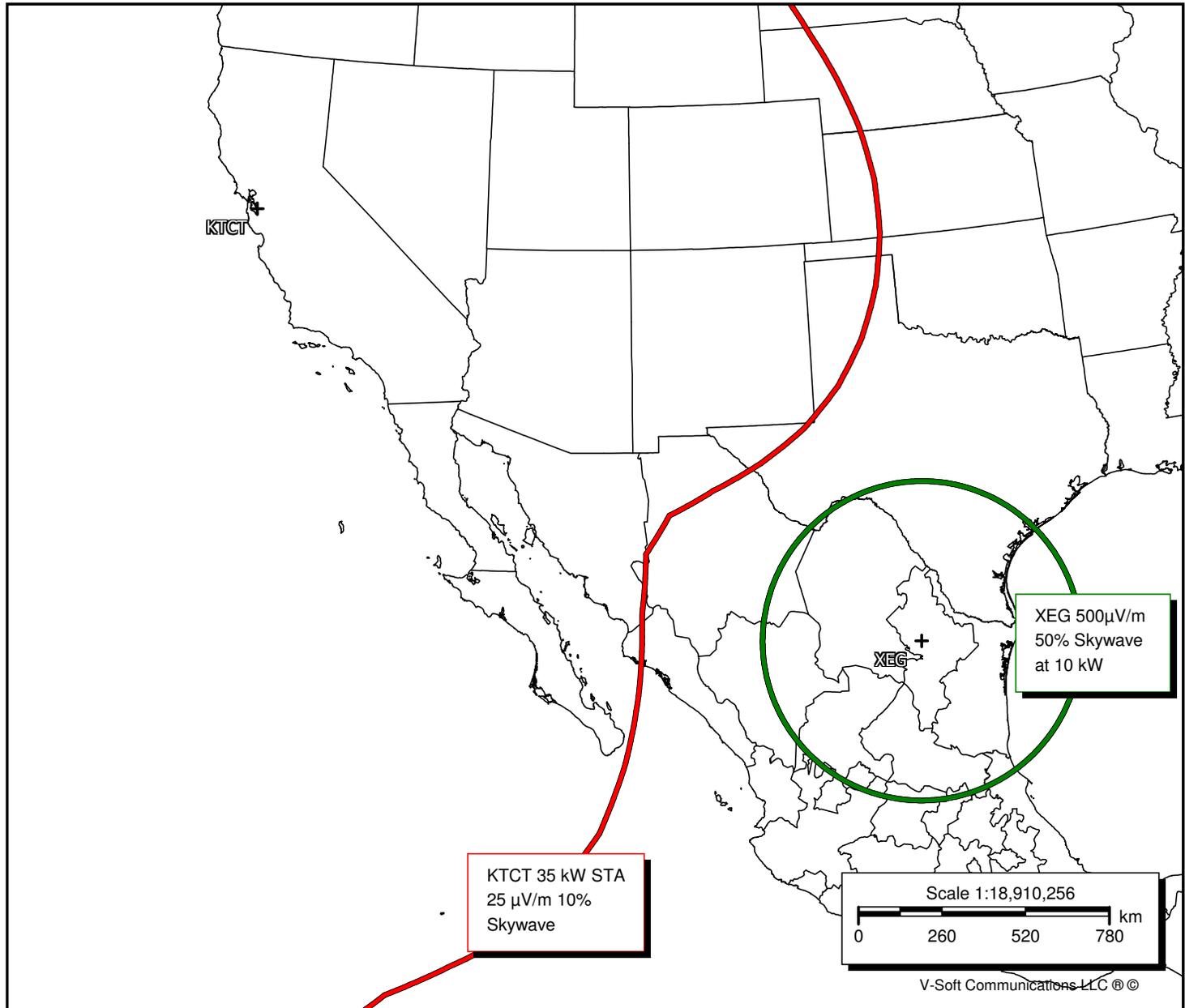
XEG

XEG 500 μ V/m
50% Skywave
at 10 kW

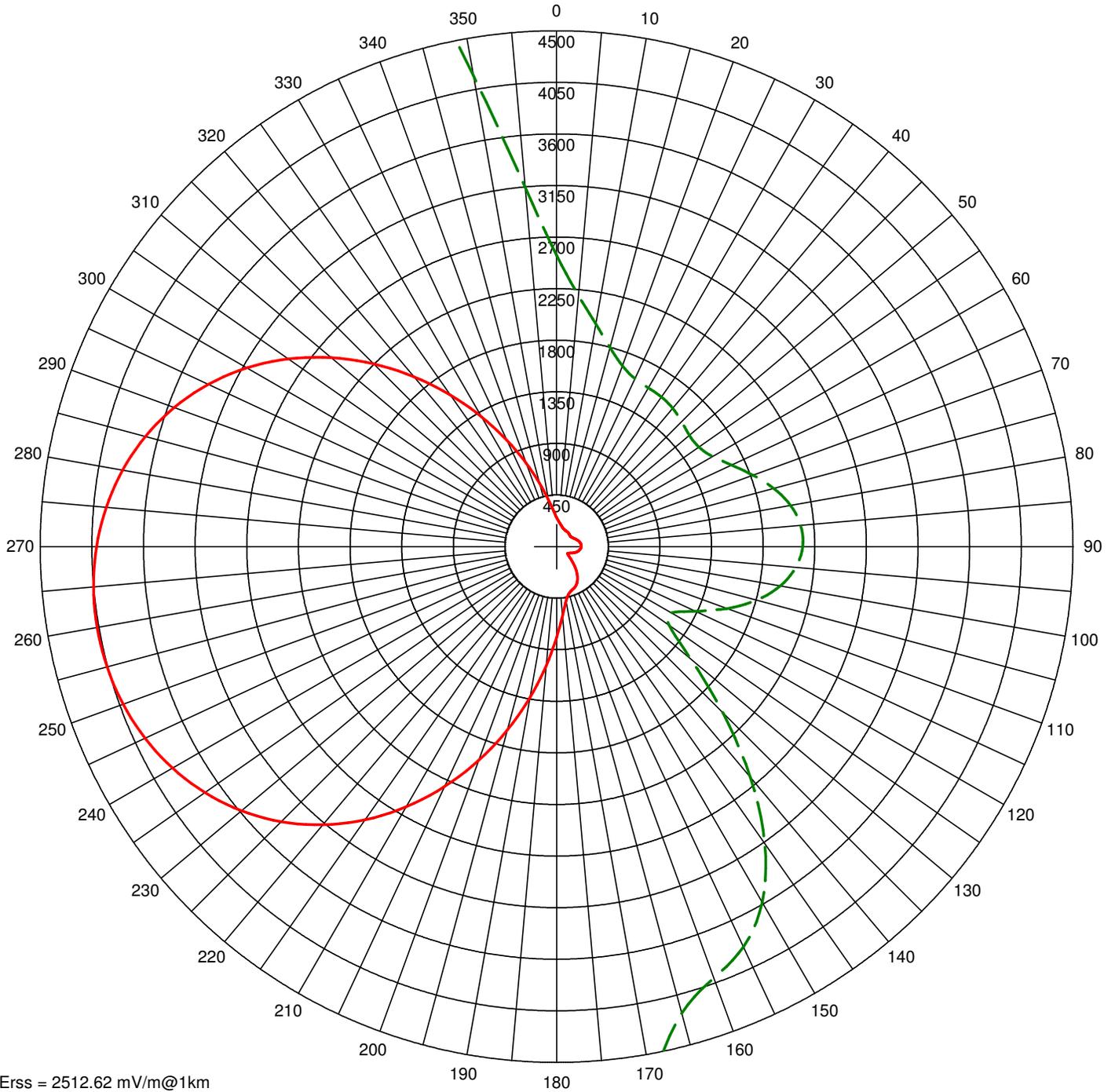
Scale 1:18,910,256

0 260 520 780 km

V-Soft Communications LLC ©



AM Directional Pattern



Erss = 2512.62 mV/m@1km
 Theo RMS: 1947.432 mV/m@1km
 Std RMS: 2045.867 mV/m@1km
 Q: 62.816 mV/m@1km

Standard Horizontal Plane Pattern

— Pattern (mV/m @ 1km)
 - - - Pattern X10

#	Field Ratio	Phase (deg)	Spacing (deg)	Orient (deg)	Height (deg)	Ref Swtch	TL Swtch	A (deg)	B (deg)	C (deg)	D (deg)
1	0.402	-95.2	180.0	80.8	76.9	0	0	0.0	0.0	0.0	0.0
2	1.000	126.6	90.0	81.8	76.9	0	0	0.0	0.0	0.0	0.0
3	1.000	0.0	0.0	0.0	76.9	0	0	0.0	0.0	0.0	0.0
4	0.357	-112.7	90.5	253.3	76.9	0	0	0.0	0.0	0.0	0.0

Call: KTCT
 Freq: 1050 kHz
 SAN MATEO, CA, US
 Hours: N
 Lat: 37-39-02 N
 Lng: 122-09-02 W
 Power: 35.0 kW
 Theo RMS: 1947.43 mV/m@1km
 @ 35.0 kW

FEDERAL COMMUNICATIONS COMMISSION
445 TWELFTH STREET SW
WASHINGTON DC 20554

MEDIA BUREAU
AUDIO DIVISION
APPLICATION STATUS: (202) 418-2730
HOME PAGE: www.fcc.gov/mb/audio/

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E-MAIL: charles.miller@fcc.gov

June 10, 2009

Andrew S. Kersting, Esq.
Dickstein Shapiro Morin & Oshinsky LLP
2101 L Street NW
Washington, DC 20037-1526

Re: KTCT(AM), San Mateo, California
Facility Identification Number : 51188
Susquehanna Radio Corporation
Special Temporary Authorization

Dear Counsel:

This is in reference to the request filed September 25, 2008, on behalf of Susquehanna Radio Corporation ("SRC"), licensee of Station KTCT(AM), San Mateo, California. SRC requests further extension of the special temporary authority ("STA") originally granted on June 15, 1999, and modified on February 11, 2004, to operate Station KTCT with its authorized daytime facilities during nighttime hours in order to overcome interference from a foreign station.¹

In support of its request for extension, SRC states that the STA was authorized to overcome interference to KTCT from an unauthorized operation of cochannel Station XED, Mexicali, Baja California, Mexico. SRC further states that the interference situation has not changed.

Accordingly, the request for extension of STA IS HEREBY GRANTED, subject to the following condition:

Operation with the facilities specified herein is subject to modification, suspension or termination without right to hearing, if found by the Commission to be necessary in order to conform to the provisions of the registration process of the ITU, or to bilateral or other multilateral agreements between the United States and any other country.

Station KTCT may continue to operate with increased power during nighttime hours in order to overcome interference from the non-compliant operation of Station XED. Operation pursuant to this authority shall be in accordance with the attached Directional Antenna Specifications. It will be necessary to reduce power or cease STA operation if complaints of interference are received. SRC must use whatever means are necessary to protect workers and the public from exposure to radio frequency radiation in excess of the Commission's exposure guidelines. *See* 47 CFR §

¹ KTCT is licensed for operation on 1050 kHz with 50 kilowatts daytime and 10 kilowatts nighttime, employing different directional antenna patterns during daytime and nighttime hours (DA-2-U).

1.1310.

This authority expires on **December 10, 2009**.

Sincerely,

A handwritten signature in blue ink, appearing to read "Charles N. Miller". The signature is fluid and cursive, with a long horizontal stroke at the end.

Charles N. Miller, Engineer
Audio Division
Media Bureau

Attachment: Directional Antenna Specifications

cc: Susquehanna Radio Corporation

SPECIAL TEMPORARY AUTHORITY

**SPECIFICATIONS FOR NIGHTTIME DIRECTIONAL OPERATION OF
KTCT (AM), San Mateo, CA**

Frequency: 1050 kHz **Nominal Power:** 50 kW **Antenna Input Power:** 52.6 kW

Common Point Current: 32.43 Amperes **Common Point Resistance:** 50 ohms

Transmitter site coordinates (NAD 1927): 37° 39' 02" N, 122° 09' 02" W

Description of Directional Antenna System:

Number and Type of Elements: Five (5) vertical, self-supporting, series-excited steel radiators. (Note: Tower #5 is not used in this pattern.)

Height above Insulators: 61.0 meters (76.9°)

Overall Height: 62.5 meters

Ground System: 120 radials 72 m in length except where intersecting radials are shortened and bonded, plus 120 radials 15.2 m in length, about the base of each tower.

Spacing and Orientation: With Tower #3 (WC) as a reference, Tower #1 (E) is spaced 180.0° (142.8 m) on a line bearing 80.8° ; Tower #2 (EC) is spaced 90.0° (71.4 m) on a line bearing 81.8°; Tower #4 (W) is spaced 90.5° (71.8 m) on a line bearing 253.3°; Tower #5 (N) is spaced 102.4° (81.2 m) on a line bearing 327.8°.

Theoretical RMS: 2327.6 mV/m at 1 km

Standard RMS: 2445.25 mV/m at 1 km

Q factor: 75.1 mV/m

SPECIAL TEMPORARY AUTHORITY

**SPECIFICATIONS FOR NIGHTTIME DIRECTIONAL OPERATION OF
KTCT (AM), San Mateo, CA**

Tower:	#1(E)	#2 (EC)	#3 (WC)	#4(W)
Theoretical Parameters:				
Field Ratio:	0.402	1.0	1.0	0.357
Phasing (degrees):	-95.2	126.6	0.0	-112.7
Operating Parameters*				
Phase (degrees):	-91.4	125.2	0.0	-109.2
Current Ratio:	0.417	0.906	1.00	0.304

*As indicated by Potomac Instruments AM-1901 antenna Monitor.

Antenna sampling system approved under Section 73.68 (b) of the rules.

Descriptions Of And Field Intensities At Monitor Points:

Direction of 52.5° True North: North side of Grove Way, west end of Cherryland Park, 200' into park at northwest corner of basketball court. Distance from the transmitter site is 4.83 km. The field intensity at this point shall not exceed **36.0 mV/m**.

Direction of 122° True North: Northwest corner of the intersection of Pueblo springs Avenue and Pueblo Lake Avenue, at curb, next to fire hydrant. Distance from the transmitter site is 5.63 km. The field intensity at this point shall not exceed **25.6 mV/m**.

Statement of Engineer

This Engineering Report, relative to an amendment to an application for Special Temporary Authority for KTCT-AM, San Mateo, CA has been prepared by the undersigned. All representations contained herein are true to the best of my knowledge. I am an experienced radio engineer whose qualifications are a matter of record with the Federal Communications Commission. I am an engineer in the firm of Hatfield and Dawson Consulting Engineers and am Registered as a Professional Engineer in the States of Washington and Oregon.

Signed this 27th day of June, 2016



Thomas S. Gorton, P.E.