

MARSAND, INC.

Matthew A. Sanderford, Jr., P.E.

ENGINEERING STATEMENT

In support of a request for

Minor Modification of a Licensed Facility for DTV Application

KAXT-CD CH22

San Francisco, San Jose, CA

Facility ID: 37689

PURPOSE

MARSAND, INC. has been retained by OTA Broadcasting (SFO), LLC, the “applicant”, to prepare this engineering statement in support of a request for a Minor Modification of a Licensed Facility for DTV Application pursuant to the Commission’s directive in *Procedures for the Post-Incentive Auction Broadcast Transition*, DA 17-106, released January 27, 2017 and the *Incentive Auction Closing and Channel Reassignment Public Notice*, DA 17-314, released April 13, 2017. The applicant proposes to construct their reassigned facility on a nearby multi-use tower using a directional circularly polarized side mount antenna with new transmission line and install a new transmitter on its reassigned channel 22 to be able to meet the construction deadline for its transition phase 9.

The proposed DTV facility will operate on the DTV channel for this station as established in the post-incentive auction channel reassignment public notice. It will operate post-incentive auction facilities that do not expand the noise-limited service contour in any direction beyond that established by the post-incentive auction channel reassignment public notice and that match or reduce by no more than five percent with respect to predicted population from those defined in the post-incentive auction channel reassignment public notice. The antenna structure to be used by this facility has been registered by the Commission and will not require reregistration.

DISCUSSION

The applicant currently is licensed and operating on channel 42 with Digital TV service with 15 kW ERP at 824 m RCAMSL (BLDTA-20141107ACO). The station has been reassigned

MARSAND, INC.

Matthew A. Sanderford, Jr., P.E.

channel 22 with 9.9 kW ERP at 824 m RCAMSL with reference coordinates: 37-29-56.77N, 121-52-19.84W (NAD83). The current tower owner has indicated that the existing tower will not support the addition of the channel 22 antenna. The station therefore has located a multiuse tower adjacent to the current site that will support the proposed equipment. The ASRN for the proposed is 1044718:

The proposed facility would establish service on the reassigned channel at an ERP of 7 kW which is lower than the assigned 9.9 kW ERP and an RCAMSL of 885.7 m which is higher than the reference 824 m. The proposed service area will remain within the FCC baseline +1% and still maintain a service area population of more than 95% of baseline. The study results of this proposal utilizing the FCC TVStudy v2.2.2 software are included as **Exhibit 1**.

FCC OET Bulletin No. 65 "Evaluating Compliance With FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields", Edition 97-01, and has been found to comply with the limits set forth in Section 1.1310 of the Rules as shown in **Exhibit 2**. The total exposure as defined by the ANSI standard computations for occupational/controlled area is 0.89 % of the maximum. The total exposure as defined by the ANSI standard computations for general population/uncontrolled area is 4.16 % of the maximum.

Proposed coverage contour shown in **Exhibit 3**.

Proposed antenna technical information is shown in **Exhibit 4**.

CONCLUSION

It is respectfully requested that the Commission grant this request for minor modification for these facilities as specified herein.

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Matthew A. Sanderford, Jr., P.E.

DECLARATION

David Sanderford, EIT, declares and states that he is a graduate Electrical Engineer with a Bachelor of Science Degree in Electrical Engineering from the Georgia Institute of Technology, and his qualifications are known to the Federal Communications Commission, and that he is Vice-President of MARSAND, INC., a Registered Professional Engineering firm in the State of Texas, and that firm has been retained by OTA Broadcasting, to perform the engineering support as contained in this report.

All facts contained herein are true of his own knowledge except where stated to be on information or belief provided by others, and as to those facts, he believes them to be true.

I declare under penalty of perjury that the foregoing is true and correct.



David Sanderford, EIT
Vice-President - MARSAND, INC.

Executed this 9th of July, 2017

State of Texas

MARSAND, INC.**Matthew A. Sanderford, Jr., P.E.****EXHIBIT 1**

tvstudy v2.2.2
 Database: localhost, Study: KAXT-CD_PROPOSED26, Model: Longley-Rice
 Start: 2017.07.09 14:28:42

Study created: 2017.07.09 14:28:25

Study build station data: LMS TV 2017-07-01 (9)

Proposal: KAXT-CD D22 DC BL SAN FRANCISO, SAN JO, CA
 File number: KAXT-CD_PROPOSED26
 Facility ID: 37689
 Station data: User record
 Record ID: 166
 Country: U.S.

Stations potentially affected:

Call	Chan	Svc	Status	City, State	File Number	Distance
KFTV-DT	D21	DT	CP	HANFORD, CA	BLANK0000025107	221.0 km
KFTV-DT	D21	DT	BL	HANFORD, CA	DTVBL34439	221.0
KFTL-CD	D21	DC	BL	SAN FRANCISCO, CA	DTVBL52887	53.8
KDTV-CD	D21	DC	CP	SANTA ROSA, CA	BLANK0000025110	144.1
KDTV-CD	D21	DC	BL	SANTA ROSA, CA	DTVBL18148	144.1
KAEF-TV	D22	DT	LIC	ARCATA, CA	BLCDT20071012ASQ	401.9
KSPX-TV	D22	DT	BL	SACRAMENTO, CA	DTVBL52953	91.4
KNXT	D22	DT	BL	VISALIA, CA	DTVBL16950	301.4
KQCA	D23	DT	CP	STOCKTON, CA	BLANK0000024621	91.5
KQCA	D23	DT	BL	STOCKTON, CA	DTVBL10242	91.4

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D22
 Mask: Full Service
 Latitude: 37 29 57.00 N (NAD83)
 Longitude: 121 52 20.00 W
 Height AMSL: 885.7 m
 HAAT: 666.0 m
 Peak ERP: 7.00 kW
 Antenna: ATC-BPEC2S 0.0 deg

49.6 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	0.003 kW	729.1 m	19.7 km
45.0	0.000	529.2	11.5
90.0	0.000	298.9	9.0
135.0	0.622	434.7	45.0
180.0	6.52	817.4	68.7
225.0	4.68	868.7	67.3
270.0	6.24	872.4	69.3
315.0	2.52	777.7	61.6

Proposal service area is within baseline plus 1.0%
 Proposal service area population is more than 95.0% of baseline

Distance to Canadian border: 1199.8 km

Distance to Mexican border: 677.1 km

Conditions at FCC monitoring station: Livermore CA
 Bearing: 22.4 degrees Distance: 27.2 km
 ERP: 0.000700 kW Field strength: 46.4 dBu, 0.2 mV/m

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
 Bearing: 73.4 degrees Distance: 1466.2 km

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Matthew A. Sanderford, Jr., P.E.

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%

Interference to BLANK0000025107 CP, scenario 1
Proposal causes no interference.

Interference to BLANK0000025107 CP, scenario 2
Proposal causes no interference.

Interference to BLANK0000025107 CP, scenario 3
Proposal causes no interference.

Interference to BLANK0000025107 CP, scenario 4
Proposal causes no interference.

Interference to BLANK0000025107 CP, scenario 5
Proposal causes no interference.

Interference to BLANK0000025107 CP, scenario 6
Proposal causes no interference.

Interference to BLANK0000025107 CP, scenario 7
Proposal causes no interference.

Interference to BLANK0000025107 CP, scenario 8
Proposal causes no interference.

Interference to DTVBL34439 BL, scenario 1
Proposal causes no interference.

Interference to DTVBL34439 BL, scenario 2
Proposal causes no interference.

Interference to DTVBL34439 BL, scenario 3
Proposal causes no interference.

Interference to DTVBL34439 BL, scenario 4
Proposal causes no interference.

Interference to DTVBL34439 BL, scenario 5
Proposal causes no interference.

Interference to DTVBL34439 BL, scenario 6
Proposal causes no interference.

Interference to DTVBL34439 BL, scenario 7
Proposal causes no interference.

Interference to DTVBL34439 BL, scenario 8
Proposal causes no interference.

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Interference to DTVBL52887 BL, scenario 1
Proposal causes no interference.

Interference to DTVBL52887 BL, scenario 2
Proposal causes no interference.

Interference to DTVBL52887 BL, scenario 3
Proposal causes no interference.

Interference to DTVBL52887 BL, scenario 4
Proposal causes no interference.

Interference to DTVBL52887 BL, scenario 5
Proposal causes no interference.

Interference to DTVBL52887 BL, scenario 6
Proposal causes no interference.

Interference to DTVBL52887 BL, scenario 7
Proposal causes no interference.

Interference to DTVBL52887 BL, scenario 8
Proposal causes no interference.

Interference to DTVBL52887 BL, scenario 9
Proposal causes no interference.

Interference to DTVBL52887 BL, scenario 10
Proposal causes no interference.

Interference to DTVBL52887 BL, scenario 11
Proposal causes no interference.

Interference to DTVBL52887 BL, scenario 12
Proposal causes no interference.

Interference to DTVBL52887 BL, scenario 13
Proposal causes no interference.

Interference to DTVBL52887 BL, scenario 14
Proposal causes no interference.

Interference to DTVBL52887 BL, scenario 15
Proposal causes no interference.

Interference to DTVBL52887 BL, scenario 16
Proposal causes no interference.

Interference to BLANK0000025110 CP, scenario 1
Proposal causes no interference.

Interference to BLANK0000025110 CP, scenario 2
Proposal causes no interference.

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 Interference to BLANK0000025110 CP, scenario 3
 Proposal causes no interference.

 Interference to BLANK0000025110 CP, scenario 4
 Proposal causes no interference.

 Interference to DTVBL18148 BL, scenario 1
 Proposal causes no interference.

 Interference to DTVBL18148 BL, scenario 2
 Proposal causes no interference.

 Interference to DTVBL18148 BL, scenario 3
 Proposal causes no interference.

 Interference to DTVBL18148 BL, scenario 4
 Proposal causes no interference.

 Interference to BLCDT20071012ASQ LIC, scenario 1
 Proposal causes no interference.

 Interference to BLCDT20071012ASQ LIC, scenario 2
 Proposal causes no interference.

 Interference to DTVBL52953 BL, scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KSPX-TV	D22	DT	BL	SACRAMENTO, CA	DTVBL52953	
Undesireds:	KAXT-CD	D22	DC	BL	SAN FRANCISO, SAN JO, CA	DTVBL37689	91.5 km
	KAXT-CD	D22	DC	BL	SAN FRANCISO, SAN JO, CA	KAXT-CD_PROPOSED26	91.4
	KFTL-CD	D21	DC	BL	SAN FRANCISCO, CA	DTVBL52887	104.7
	KDTV-CD	D21	DC	CP	SANTA ROSA, CA	BLANK0000025110	107.1
	KAEF-TV	D22	DT	LIC	ARCATA, CA	BLCDT20071012ASQ	346.7
	KNXT	D22	DT	BL	VISALIA, CA	DTVBL16950	321.4
	KQCA	D23	DT	CP	STOCKTON, CA	BLANK0000024621	0.0
	KRXI-TV	D23	DT	BL	RENO, NV	DTVBL48360	199.9
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
35281.0	6,745,180	31490.1	5,071,500	30397.0	4,954,866	30507.9	4,973,391
						-0.36	-0.37
Undesired		Total IX		Unique IX, before		Unique IX, after	
KAXT-CD D22	DC BL	658.5	99,353	626.6	95,910	515.7	77,385
KAXT-CD D22	DC BL	547.6	80,828			7.9	1,218
KFTL-CD D21	DC BL	19.8	1,218	7.9	1,218	7.9	1,218
KDTV-CD D21	DC CP	28.2	561	20.1	75	20.1	75
KNXT D22	DT BL	234.7	1,209	230.7	1,209	230.7	1,209
KQCA D23	DT CP	183.8	17,736	175.8	14,779	175.8	14,779

 Interference to DTVBL52953 BL, scenario 2

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KSPX-TV	D22	DT	BL	SACRAMENTO, CA	DTVBL52953	
Undesireds:	KAXT-CD	D22	DC	BL	SAN FRANCISO, SAN JO, CA	DTVBL37689	91.5 km
	KAXT-CD	D22	DC	BL	SAN FRANCISO, SAN JO, CA	KAXT-CD_PROPOSED26	91.4
	KFTL-CD	D21	DC	BL	SAN FRANCISCO, CA	DTVBL52887	104.7
	KDTV-CD	D21	DC	CP	SANTA ROSA, CA	BLANK0000025110	107.1
	KAEF-TV	D22	DT	LIC	ARCATA, CA	BLCDT20071012ASQ	346.7
	KNXT	D22	DT	BL	VISALIA, CA	DTVBL16950	321.4
	KQCA	D23	DT	CP	STOCKTON, CA	BLANK0000024621	0.0

MARSAND, INC.**Matthew A. Sanderford, Jr., P.E.**

KRXI-TV	D23	DT	BL	RENO, NV	DTVBL48360	199.9
Service area		Terrain-limited		IX-free, before	IX-free, after	Percent New IX
35281.0	6,745,180	31490.1	5,071,500	30397.0 4,954,866	30507.9 4,973,391	-0.36 -0.37
Undesired		Total IX		Unique IX, before	Unique IX, after	
KAXT-CD D22 DC BL	658.5	99,353	626.6	95,910	515.7	77,385
KAXT-CD D22 DC BL	547.6	80,828				
KFTL-CD D21 DC BL	19.8	1,218	7.9	1,218	7.9	1,218
KDTV-CD D21 DC CP	28.2	561	20.1	75	20.1	75
KNXT D22 DT BL	234.7	1,209	230.7	1,209	230.7	1,209
KQCA D23 DT CP	183.8	17,736	175.8	14,779	175.8	14,779

Interference to DTVBL52953 BL, scenario 3

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KSPX-TV	D22	DT	BL	SACRAMENTO, CA	DTVBL52953	
Undesireds:	KAXT-CD	D22	DC	BL	SAN FRANCISO, SAN JO, CA	DTVBL37689	91.5 km
	KAXT-CD	D22	DC	BL	SAN FRANCISO, SAN JO, CA	KAXT-CD_PROPOSED26	91.4
	KFTL-CD	D21	DC	BL	SAN FRANCISCO, CA	DTVBL52887	104.7
	KDTV-CD	D21	DC	CP	SANTA ROSA, CA	BLANK0000025110	107.1
	KAEF-TV	D22	DT	LIC	ARCATA, CA	BLCDT20071012ASQ	346.7
	KNXT	D22	DT	BL	VISALIA, CA	DTVBL16950	321.4
	KQCA	D23	DT	BL	STOCKTON, CA	DTVBL10242	0.0
	KRXI-TV	D23	DT	BL	RENO, NV	DTVBL48360	199.9
Service area		Terrain-limited		IX-free, before	IX-free, after	Percent New IX	
35281.0	6,745,180	31490.1	5,071,500	30417.0 4,958,271	30527.9 4,976,796	-0.36 -0.37	
Undesired		Total IX		Unique IX, before	Unique IX, after		
KAXT-CD D22 DC BL	658.5	99,353	626.6	95,910	515.7	77,385	
KAXT-CD D22 DC BL	547.6	80,828					
KFTL-CD D21 DC BL	19.8	1,218	7.9	1,218	7.9	1,218	
KDTV-CD D21 DC CP	28.2	561	20.1	75	20.1	75	
KNXT D22 DT BL	234.7	1,209	230.7	1,209	230.7	1,209	
KQCA D23 DT BL	163.7	14,331	155.7	11,374	155.7	11,374	

Interference to DTVBL52953 BL, scenario 4

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KSPX-TV	D22	DT	BL	SACRAMENTO, CA	DTVBL52953	
Undesireds:	KAXT-CD	D22	DC	BL	SAN FRANCISO, SAN JO, CA	DTVBL37689	91.5 km
	KAXT-CD	D22	DC	BL	SAN FRANCISO, SAN JO, CA	KAXT-CD_PROPOSED26	91.4
	KFTL-CD	D21	DC	BL	SAN FRANCISCO, CA	DTVBL52887	104.7
	KDTV-CD	D21	DC	CP	SANTA ROSA, CA	BLANK0000025110	107.1
	KAEF-TV	D22	DT	LIC	ARCATA, CA	BLCDT20071012ASQ	346.7
	KNXT	D22	DT	BL	VISALIA, CA	DTVBL16950	321.4
	KQCA	D23	DT	BL	STOCKTON, CA	DTVBL10242	0.0
	KRXI-TV	D23	DT	BL	RENO, NV	DTVBL48360	199.9
Service area		Terrain-limited		IX-free, before	IX-free, after	Percent New IX	
35281.0	6,745,180	31490.1	5,071,500	30417.0 4,958,271	30527.9 4,976,796	-0.36 -0.37	
Undesired		Total IX		Unique IX, before	Unique IX, after		
KAXT-CD D22 DC BL	658.5	99,353	626.6	95,910	515.7	77,385	
KAXT-CD D22 DC BL	547.6	80,828					
KFTL-CD D21 DC BL	19.8	1,218	7.9	1,218	7.9	1,218	
KDTV-CD D21 DC CP	28.2	561	20.1	75	20.1	75	
KNXT D22 DT BL	234.7	1,209	230.7	1,209	230.7	1,209	
KQCA D23 DT BL	163.7	14,331	155.7	11,374	155.7	11,374	

Interference to DTVBL52953 BL, scenario 5

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KSPX-TV	D22	DT	BL	SACRAMENTO, CA	DTVBL52953	
Undesireds:	KAXT-CD	D22	DC	BL	SAN FRANCISO, SAN JO, CA	DTVBL37689	91.5 km

MARSAND, INC.**Matthew A. Sanderford, Jr., P.E.**

KAXT-CD	D22	DC	BL	SAN FRANCISO, SAN JO, CA	KAXT-CD_PROPOSED26	91.4
KFTL-CD	D21	DC	BL	SAN FRANCISCO, CA	DTVBL52887	104.7
KDTV-CD	D21	DC	BL	SANTA ROSA, CA	DTVBL18148	107.1
KAEF-TV	D22	DT	LIC	ARCATA, CA	BLCDT20071012ASQ	346.7
KNXT	D22	DT	BL	VISALIA, CA	DTVBL16950	321.4
KQCA	D23	DT	CP	STOCKTON, CA	BLANK0000024621	0.0
KRXI-TV	D23	DT	BL	RENO, NV	DTVBL48360	199.9

Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
35281.0	6,745,180	31490.1	5,071,500	30405.0	4,954,921	30515.9	4,973,446

Undesired		Total IX		Unique IX, before		Unique IX, after	
KAXT-CD D22 DC BL		658.5	99,353	630.7	95,981	519.8	77,456
KAXT-CD D22 DC BL		547.6	80,828			7.9	1,218
KFTL-CD D21 DC BL		19.8	1,218	7.9	1,218	7.9	1,218
KDTV-CD D21 DC BL		16.1	435	12.1	20	12.1	20
KNXT D22 DT BL		234.7	1,209	230.7	1,209	230.7	1,209
KQCA D23 DT CP		183.8	17,736	175.8	14,779	175.8	14,779

Interference to DTVBL52953 BL, scenario 6

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KSPX-TV	D22	DT	BL	SACRAMENTO, CA	DTVBL52953	

Undesireds:	KAXT-CD	D22	DC	BL	SAN FRANCISO, SAN JO, CA	DTVBL37689	91.5 km
	KAXT-CD	D22	DC	BL	SAN FRANCISO, SAN JO, CA	KAXT-CD_PROPOSED26	91.4
	KFTL-CD	D21	DC	BL	SAN FRANCISCO, CA	DTVBL52887	104.7
	KDTV-CD	D21	DC	BL	SANTA ROSA, CA	DTVBL18148	107.1
	KAEF-TV	D22	DT	LIC	ARCATA, CA	BLCDT20071012ASQ	346.7
	KNXT	D22	DT	BL	VISALIA, CA	DTVBL16950	321.4
	KQCA	D23	DT	CP	STOCKTON, CA	BLANK0000024621	0.0
	KRXI-TV	D23	DT	BL	RENO, NV	DTVBL48360	199.9

Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
35281.0	6,745,180	31490.1	5,071,500	30405.0	4,954,921	30515.9	4,973,446

Undesired		Total IX		Unique IX, before		Unique IX, after	
KAXT-CD D22 DC BL		658.5	99,353	630.7	95,981	519.8	77,456
KAXT-CD D22 DC BL		547.6	80,828			7.9	1,218
KFTL-CD D21 DC BL		19.8	1,218	7.9	1,218	7.9	1,218
KDTV-CD D21 DC BL		16.1	435	12.1	20	12.1	20
KNXT D22 DT BL		234.7	1,209	230.7	1,209	230.7	1,209
KQCA D23 DT CP		183.8	17,736	175.8	14,779	175.8	14,779

Interference to DTVBL52953 BL, scenario 7

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KSPX-TV	D22	DT	BL	SACRAMENTO, CA	DTVBL52953	

Undesireds:	KAXT-CD	D22	DC	BL	SAN FRANCISO, SAN JO, CA	DTVBL37689	91.5 km
	KAXT-CD	D22	DC	BL	SAN FRANCISO, SAN JO, CA	KAXT-CD_PROPOSED26	91.4
	KFTL-CD	D21	DC	BL	SAN FRANCISCO, CA	DTVBL52887	104.7
	KDTV-CD	D21	DC	BL	SANTA ROSA, CA	DTVBL18148	107.1
	KAEF-TV	D22	DT	LIC	ARCATA, CA	BLCDT20071012ASQ	346.7
	KNXT	D22	DT	BL	VISALIA, CA	DTVBL16950	321.4
	KQCA	D23	DT	BL	STOCKTON, CA	DTVBL10242	0.0
	KRXI-TV	D23	DT	BL	RENO, NV	DTVBL48360	199.9

Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
35281.0	6,745,180	31490.1	5,071,500	30425.1	4,958,326	30536.0	4,976,851

Undesired		Total IX		Unique IX, before		Unique IX, after	
KAXT-CD D22 DC BL		658.5	99,353	630.7	95,981	519.8	77,456
KAXT-CD D22 DC BL		547.6	80,828			7.9	1,218
KFTL-CD D21 DC BL		19.8	1,218	7.9	1,218	7.9	1,218
KDTV-CD D21 DC BL		16.1	435	12.1	20	12.1	20
KNXT D22 DT BL		234.7	1,209	230.7	1,209	230.7	1,209
KQCA D23 DT BL		163.7	14,331	155.7	11,374	155.7	11,374

MARSAND, INC.**Matthew A. Sanderford, Jr., P.E.**

Interference to DTVBL52953 BL, scenario 8

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KSPX-TV	D22	DT	BL	SACRAMENTO, CA	DTVBL52953	
Undesireds:	KAXT-CD	D22	DC	BL	SAN FRANCISO, SAN JO, CA	DTVBL37689	91.5 km
	KAXT-CD	D22	DC	BL	SAN FRANCISO, SAN JO, CA	KAXT-CD_PROPOSED26	91.4
	KFTL-CD	D21	DC	BL	SAN FRANCISCO, CA	DTVBL52887	104.7
	KDTV-CD	D21	DC	BL	SANTA ROSA, CA	DTVBL18148	107.1
	KAFF-TV	D22	DT	LIC	ARCATA, CA	BLCDT20071012ASQ	346.7
	KNXT	D22	DT	BL	VISALIA, CA	DTVBL16950	321.4
	KQCA	D23	DT	BL	STOCKTON, CA	DTVBL10242	0.0
	KRXI-TV	D23	DT	BL	RENO, NV	DTVBL48360	199.9

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
35281.0 6,745,180	31490.1 5,071,500	30425.1 4,958,326	30536.0 4,976,851	-0.36 -0.37

Undesired	Total IX	Unique IX, before	Unique IX, after
KAXT-CD D22 DC BL	658.5	99,353	630.7 95,981
KAXT-CD D22 DC BL	547.6	80,828	519.8 77,456
KFTL-CD D21 DC BL	19.8	1,218	7.9 1,218
KDTV-CD D21 DC BL	16.1	435	12.1 20
KNXT D22 DT BL	234.7	1,209	1,209 1,209
KQCA D23 DT BL	163.7	14,331	155.7 11,374

Interference to DTVBL16950 BL, scenario 1
Proposal causes no interference.

Interference to DTVBL16950 BL, scenario 2
Proposal causes no interference.

Interference to DTVBL16950 BL, scenario 3
Proposal causes no interference.

Interference to DTVBL16950 BL, scenario 4
Proposal causes no interference.

Interference to DTVBL16950 BL, scenario 5
Proposal causes no interference.

Interference to DTVBL16950 BL, scenario 6
Proposal causes no interference.

Interference to DTVBL16950 BL, scenario 7
Proposal causes no interference.

Interference to DTVBL16950 BL, scenario 8
Proposal causes no interference.

Interference to BLANK0000024621 CP, scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KQCA	D23	DT	CP	STOCKTON, CA	BLANK0000024621	
Undesireds:	KAXT-CD	D22	DC	BL	SAN FRANCISO, SAN JO, CA	DTVBL37689	91.5 km
	KAXT-CD	D22	DC	BL	SAN FRANCISO, SAN JO, CA	KAXT-CD_PROPOSED26	91.5
	KSPX-TV	D22	DT	BL	SACRAMENTO, CA	DTVBL52953	0.0
	KFFF-DT	D23	DT	CP	PORTERVILLE, CA	BLANK0000025094	321.5
	KRDT-CD	D23	DC	LIC	REDDING, CA	BLDTA20110620AEA	279.8
	KRXI-TV	D23	DT	BL	RENO, NV	DTVBL48360	199.9
	KMAX-TV	D24	DT	BL	SACRAMENTO, CA	DTVBL51499	0.0

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
--------------	-----------------	-----------------	----------------	----------------

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41037.5	10,077,891	35328.7	6,276,197	34612.0	6,210,045	34631.9	6,219,878	-0.06	-0.16
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		Total IX	Unique IX, before		Unique IX, after				
KAXT-CD D22 DC BL	67.7	36,690	67.7	36,690					
KAXT-CD D22 DC BL	47.8	26,857			47.8	26,857			
KSPX-TV D22 DT BL	4.0	0	0.0	0	0.0	0			
KTFF-DT D23 DT CP	541.4	28,763	541.4	28,763	541.4	28,763			
KRDT-CD D23 DC LIC	71.9	111	71.9	111	71.9	111			
KRXI-TV D23 DT BL	4.0	0	4.0	0	4.0	0			
KMAX-TV D24 DT BL	31.8	588	27.8	588	27.8	588			

Interference to BLANK0000024621 CP, scenario 2

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance	
	KQCA	D23	DT	CP	STOCKTON, CA	BLANK0000024621		
Undesireds:	KAXT-CD	D22	DC	BL	SAN FRANCISO, SAN JO, CA	DTVBL37689	91.5 km	
	KAXT-CD	D22	DC	BL	SAN FRANCISO, SAN JO, CA	KAXT-CD_PROPOSED26	91.5	
	KSPX-TV	D22	DT	BL	SACRAMENTO, CA	DTVBL52953	0.0	
	KTFF-DT	D23	DT	BL	PORTERVILLE, CA	DTVBL35512	321.5	
	KRDT-CD	D23	DC	LIC	REDDING, CA	BLDTA20110620AEA	279.8	
	KRXI-TV	D23	DT	BL	RENO, NV	DTVBL48360	199.9	
	KMAX-TV	D24	DT	BL	SACRAMENTO, CA	DTVBL51499	0.0	
Service area					Terrain-limited	IX-free, before	IX-free, after	Percent New IX
41037.5	10,077,891	35328.7	6,276,197	34627.9	6,213,415	34647.8	6,223,248	-0.06 -0.16
Undesired					Total IX	Unique IX, before	Unique IX, after	
	KAXT-CD D22 DC BL	67.7	36,690	67.7	36,690			
	KAXT-CD D22 DC BL	47.8	26,857			47.8	26,857	
	KSPX-TV D22 DT BL	4.0	0	0.0	0	0.0	0	
	KTFF-DT D23 DT BL	525.4	25,393	525.4	25,393	525.4	25,393	
	KRDT-CD D23 DC LIC	71.9	111	71.9	111	71.9	111	
	KRXI-TV D23 DT BL	4.0	0	4.0	0	4.0	0	
	KMAX-TV D24 DT BL	31.8	588	27.8	588	27.8	588	

Interference to DTVBL10242 BL, scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance	
	KQCA	D23	DT	BL	STOCKTON, CA	DTVBL10242		
Undesireds:	KAXT-CD	D22	DC	BL	SAN FRANCISO, SAN JO, CA	DTVBL37689	91.5 km	
	KAXT-CD	D22	DC	BL	SAN FRANCISO, SAN JO, CA	KAXT-CD_PROPOSED26	91.4	
	KSPX-TV	D22	DT	BL	SACRAMENTO, CA	DTVBL52953	0.0	
	KTFF-DT	D23	DT	CP	PORTERVILLE, CA	BLANK0000025094	321.5	
	KRDT-CD	D23	DC	LIC	REDDING, CA	BLDTA20110620AEA	279.8	
	KRXI-TV	D23	DT	BL	RENO, NV	DTVBL48360	199.9	
	KMAX-TV	D24	DT	BL	SACRAMENTO, CA	DTVBL51499	0.0	
Service area					Terrain-limited	IX-free, before	IX-free, after	Percent New IX
40339.4	9,931,380	34678.6	6,195,979	34061.5	6,138,899	34073.4	6,139,041	-0.03 -0.00
Undesired					Total IX	Unique IX, before	Unique IX, after	
	KAXT-CD D22 DC BL	39.8	33,756	39.8	33,756			
	KAXT-CD D22 DC BL	27.9	33,614			27.9	33,614	
	KTFF-DT D23 DT CP	509.5	23,213	509.5	23,213	509.5	23,213	
	KRDT-CD D23 DC LIC	67.9	111	67.9	111	67.9	111	

Interference to DTVBL10242 BL, scenario 2

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KQCA	D23	DT	BL	STOCKTON, CA	DTVBL10242	
Undesireds:	KAXT-CD	D22	DC	BL	SAN FRANCISO, SAN JO, CA	DTVBL37689	91.5 km
	KAXT-CD	D22	DC	BL	SAN FRANCISO, SAN JO, CA	KAXT-CD_PROPOSED26	91.4
	KSPX-TV	D22	DT	BL	SACRAMENTO, CA	DTVBL52953	0.0
	KTFF-DT	D23	DT	BL	PORTERVILLE, CA	DTVBL35512	321.4
	KRDT-CD	D23	DC	LIC	REDDING, CA	BLDTA20110620AEA	279.8
	KRXI-TV	D23	DT	BL	RENO, NV	DTVBL48360	199.9

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KMAX-TV	D24	DT	BL	SACRAMENTO, CA	DTVBL51499	0.0
Service area 40339.4	9,931,380	34678.6	6,195,979	IX-free, before 34061.5 6,138,546	IX-free, after 34073.4 6,138,688	Percent New IX -0.03 -0.00

Undesired	Total IX	Unique IX, before	Unique IX, after
KAXT-CD D22 DC BL	39.8	33,756	39.8 33,756
KAXT-CD D22 DC BL	27.9	33,614	27.9 33,614
KTFF-DT D23 DT BL	509.5	23,566	509.5 23,566
KRDT-CD D23 DC LIC	67.9	111	67.9 111

Interference to proposal, scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KAXT-CD	D22	DC	BL	SAN FRANCISCO, SAN JO, CA	KAXT-CD_PROPOSED26	
Undesireds:	KFTL-CD	D21	DC	BL	SAN FRANCISCO, CA	DTVBL52887	53.8 km
	KDTV-CD	D21	DC	CP	SANTA ROSA, CA	BLANK0000025110	144.1
	KSPX-TV	D22	DT	BL	SACRAMENTO, CA	DTVBL52953	91.4
	KNXT	D22	DT	BL	VISALIA, CA	DTVBL16950	301.4
	KQCA	D23	DT	CP	STOCKTON, CA	BLANK0000024621	91.5
Service area 8024.7	5,122,152	5097.1	4,457,839	5065.3	IX-free 4,453,410	Percent IX 0.62 0.10	
Undesired	KSPX-TV D22 DT BL	31.8	Total IX 4,429	31.8	Unique IX 4,429	Prcnt Unique IX 0.62 0.10	

Interference to proposal, scenario 2

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KAXT-CD	D22	DC	BL	SAN FRANCISCO, SAN JO, CA	KAXT-CD_PROPOSED26	
Undesireds:	KFTL-CD	D21	DC	BL	SAN FRANCISCO, CA	DTVBL52887	53.8 km
	KDTV-CD	D21	DC	CP	SANTA ROSA, CA	BLANK0000025110	144.1
	KSPX-TV	D22	DT	BL	SACRAMENTO, CA	DTVBL52953	91.4
	KNXT	D22	DT	BL	VISALIA, CA	DTVBL16950	301.4
	KQCA	D23	DT	BL	STOCKTON, CA	DTVBL10242	91.4
Service area 8024.7	5,122,152	5097.1	4,457,839	5065.3	IX-free 4,453,410	Percent IX 0.62 0.10	
Undesired	KSPX-TV D22 DT BL	31.8	Total IX 4,429	31.8	Unique IX 4,429	Prcnt Unique IX 0.62 0.10	

Interference to proposal, scenario 3

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KAXT-CD	D22	DC	BL	SAN FRANCISCO, SAN JO, CA	KAXT-CD_PROPOSED26	
Undesireds:	KFTL-CD	D21	DC	BL	SAN FRANCISCO, CA	DTVBL52887	53.8 km
	KDTV-CD	D21	DC	BL	SANTA ROSA, CA	DTVBL18148	144.1
	KSPX-TV	D22	DT	BL	SACRAMENTO, CA	DTVBL52953	91.4
	KNXT	D22	DT	BL	VISALIA, CA	DTVBL16950	301.4
	KQCA	D23	DT	CP	STOCKTON, CA	BLANK0000024621	91.5
Service area 8024.7	5,122,152	5097.1	4,457,839	5065.3	IX-free 4,453,410	Percent IX 0.62 0.10	
Undesired	KSPX-TV D22 DT BL	31.8	Total IX 4,429	31.8	Unique IX 4,429	Prcnt Unique IX 0.62 0.10	

Interference to proposal, scenario 4

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KAXT-CD	D22	DC	BL	SAN FRANCISCO, SAN JO, CA	KAXT-CD_PROPOSED26	
Undesireds:	KFTL-CD	D21	DC	BL	SAN FRANCISCO, CA	DTVBL52887	53.8 km

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KDTV-CD	D21	DC	BL	SANTA ROSA, CA	DTVBL18148	144.1
KSPX-TV	D22	DT	BL	SACRAMENTO, CA	DTVBL52953	91.4
KNXT	D22	DT	BL	VISALIA, CA	DTVBL16950	301.4
KQCA	D23	DT	BL	STOCKTON, CA	DTVBL10242	91.4
Service area				Terrain-limited	IX-free	Percent IX
8024.7	5,122,152	5097.1		4,457,839	5065.3	4,453,410
Undesired				Total IX	Unique IX	Prcnt Unique IX
KSPX-TV	D22	DT	BL	31.8	4,429	31.8
					4,429	0.62
						0.10

MARSAND, INC.

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EXHIBIT 2
ENVIRONMENTAL STATEMENT

The proposed facility complies in full with the requirements of 47 C.F.R. Section 1.1306 and will have no significant environmental impact. Population is very scattered and sparse near the immediate location of the proposed site. The proposed site does not involve any of the conditions specified in Section 1.1307(a)(1)-(6) of the Rules.

The facility of KAXT-CD has been studied in accordance with the procedures set forth in the FCC OET Bulletin No. 65 "Evaluating Compliance With FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields", Edition 97-01, and has been found to comply with the limits set forth in Section 1.1310 of the Rules. This determination has been based upon calculations with the total radiated power from all TV & FM co-located broadcast emitters. The total exposure as defined by the ANSI standard computations for occupational/controlled area is **0.89 %** of the maximum. The total exposure as defined by the ANSI standard computations for general population/uncontrolled area is **4.16 %** of the maximum. The proposed facility is in compliance with the Commission's guidelines.

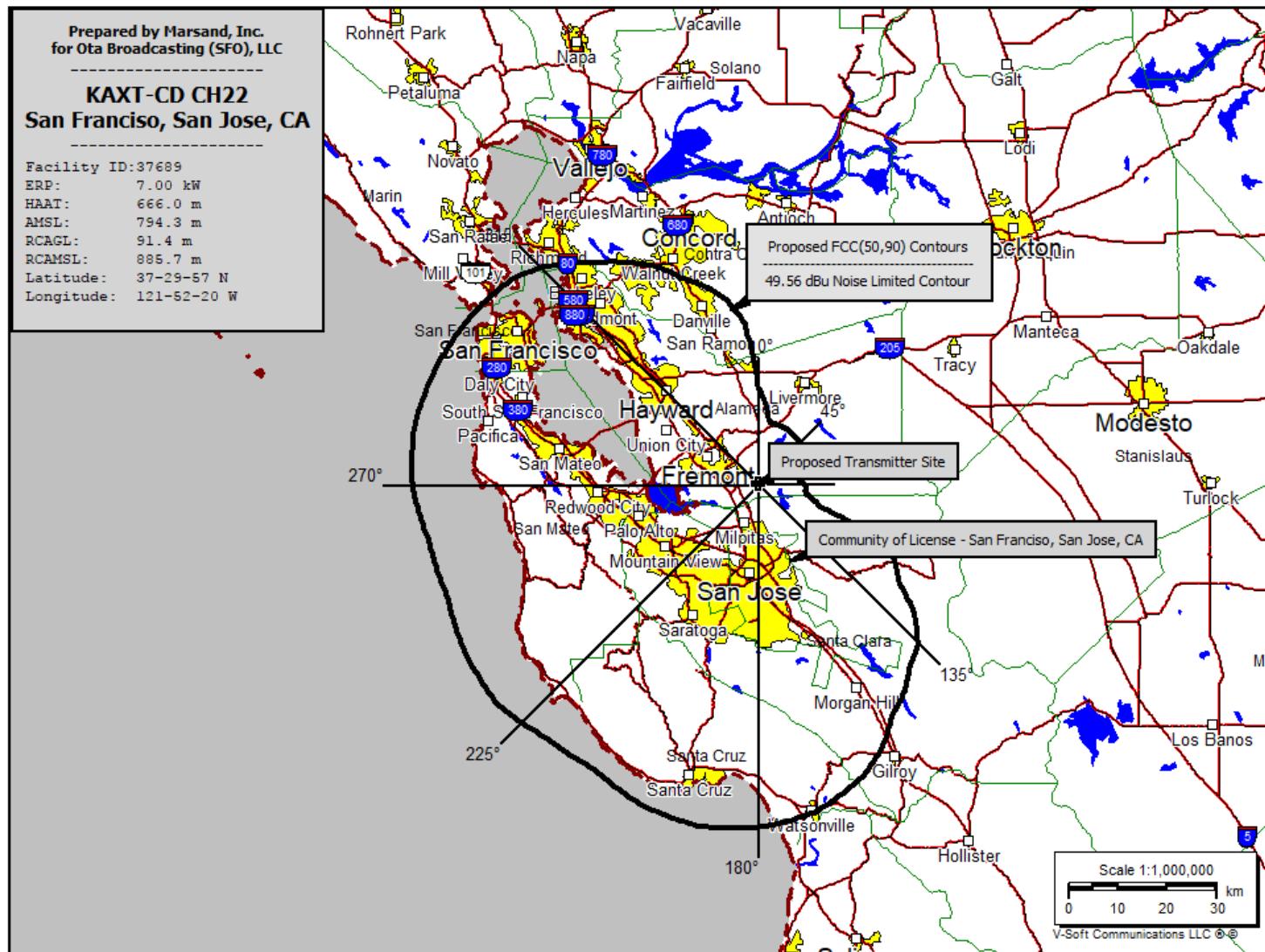
Multiple Use FM/TV Tower						
Location:		KAXT-CD, San Francisco-San Jose, CA				7/9/17
Channel Frequency Type	Call Letters	Service	ERP (W) H+V	Ant Center of Radiation AG (m)	% of ANSI/FCC Limit (6min)	% of ANSI/FCC Limit (30 min)
22	KAXT-CD	TV UHF#1	14,000	91.40	0.03	0.16
20	KEXT-CD	TV UHF#2	-	23.00	0.00	0.00
20	KSCZ-LD	TV UHF#3	-	8.00	0.00	0.00
35	KGO-TV	TV UHF#4	12,100	29.60	0.23	0.87
19	KSTS(TV)	TV UHF#5	139,000	128.00	0.12	0.63
20	KDTV-DT	TV UHF#6	253,000	128.00	0.22	1.12
6	KBKF-LP	TV VHF#1	3,000	38.10	0.28	1.18
99.3	K257BE	FM #1	-	1.00	0.00	0.00
100.9	K265CV	FM #2	16	1.00	0.00	0.20
Total %					0.89	4.16

IN COMPLIANCE

The Applicant agrees to maintain full compliance with the safety precautions to workers on the tower (controlled) and the general public (uncontrolled) by reducing or removing radiated power during the time of construction or maintenance on or near the antenna. The Applicant also certifies that it, in coordination with other users of the site, will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from Radiofrequency Electromagnetic exposure in excess of FCC guidelines

The Applicant is believed to be in full compliance with the Environmental Impact and Commission Rules.

EXHIBIT 3



MARSAND, INC.

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EXHIBIT 4



ANTENNA SPECIFICATIONS



model no.: ATC-BPE4C2S-U

call sign: KAXT

city of license: San Jose

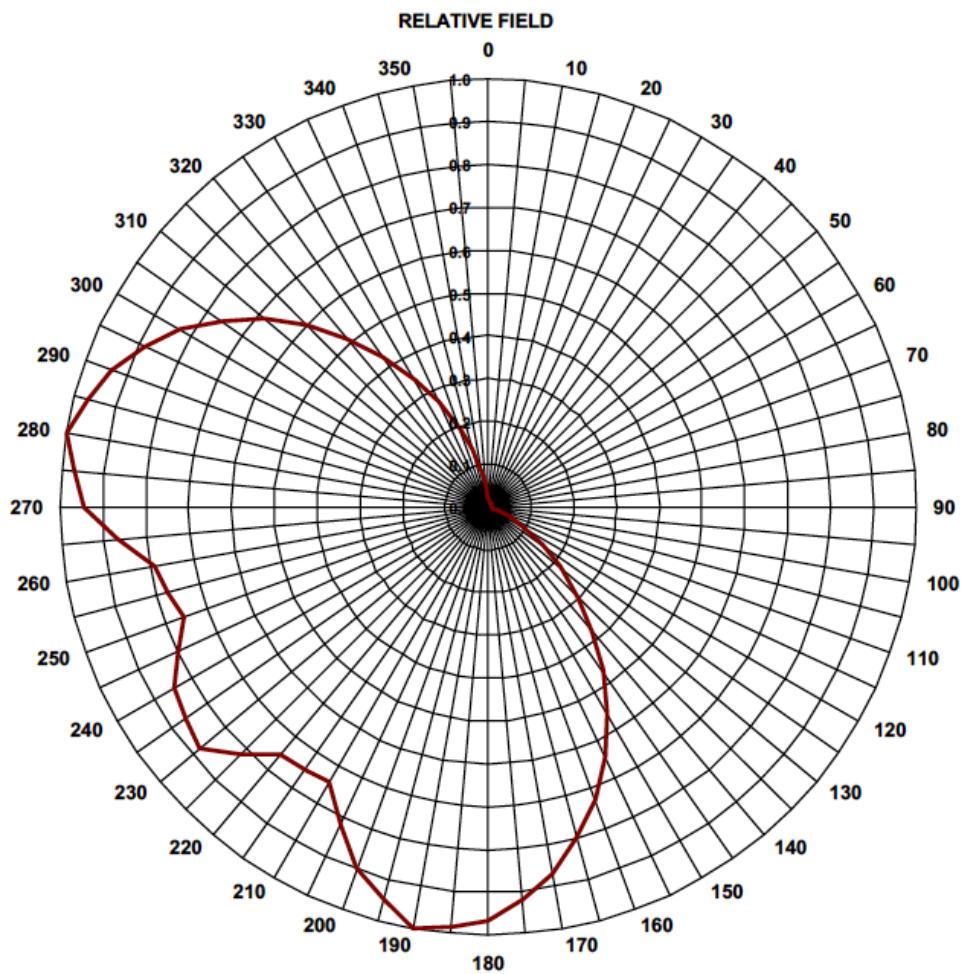
state: CA

Summary

Antenna Specifications	
Antenna Type	Panel
Antenna Model	ATC-BPE4C2S-U
Electrical Specifications	
Channel(s)	22
Frequency Range (MHz)	518 - 524
Polarization	Elliptical/Circular
Horizontal Azimuth Pattern	C2S
Directivity	2.60
dB	4.15
Vertical Azimuth Pattern	V2
Directivity	2.60
dB	4.15
Vertical Component	100 %
Azimuth Peak of Beam	235 °
Elevation Pattern	4P
Directivity	8.95
dB	9.52
Electrical Beam Tilt	1.75 °
Antenna Peak Power Gain	
Horizontal Gain Power	11.63
Horizontal Gain Ratio	10.66 dBd
Vertical Gain Power	11.63
Vertical Gain Ratio	10.66 dBd
Line Type	1-5/8" 50 Ohm Air Flex Line
Line Length	250 ft
Total Line Loss	1.22 dB
Effective Radiated Power (ERP)	9.9 kW
ERP Vertical Power	9.90 kW
Transmitter Power Output (TPO)	
TPO Power	1.13 kW
TPO Ratio	0.52 dBk
Input Type	EIA 7/8"
Mechanical Specifications	
Mount Type	Side Mount
Length of Antenna	14 ft
Center of Radiation	7.00 ft
Radome Diameter	TBD
Color	White
Calculated Weight	Contact Alive Telecom 1 2
Windload (Shear)	Contact Alive Telecom 1 2

**AZIMUTH PATTERN**

TYPE:	ATC-BPEC2S	
Directivity:	Numeric	dB
Polarization:	2.6	4.15
Channel:	C_POL	
Location:	22	
	San Jose	



AZIMUTH PATTERN TABULATION											
TYPE: ATC-C2S											
ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB
0	0.020	-33.98	94	0.010	-40.00	188	0.996	-0.04	282	0.992	-0.07
2	0.020	-33.98	96	0.010	-40.00	190	1.000	0.00	284	0.976	-0.21
4	0.016	-35.78	98	0.010	-40.00	192	0.987	-0.11	286	0.960	-0.35
6	0.014	-37.23	100	0.010	-40.00	194	0.961	-0.34	288	0.944	-0.50
8	0.013	-38.06	102	0.011	-38.98	196	0.936	-0.58	290	0.936	-0.57
10	0.010	-40.00	104	0.014	-37.23	198	0.910	-0.82	292	0.923	-0.70
12	0.010	-40.00	106	0.016	-35.78	200	0.897	-0.94	294	0.897	-0.94
14	0.010	-40.00	108	0.019	-34.54	202	0.877	-1.14	296	0.871	-1.20
16	0.010	-40.00	110	0.020	-33.98	204	0.838	-1.53	298	0.845	-1.46
18	0.010	-40.00	112	0.029	-30.68	206	0.799	-1.95	300	0.832	-1.60
20	0.010	-40.00	114	0.048	-26.42	208	0.760	-2.39	302	0.814	-1.79
22	0.010	-40.00	116	0.066	-23.58	210	0.740	-2.62	304	0.777	-2.19
24	0.010	-40.00	118	0.085	-21.44	212	0.742	-2.59	306	0.740	-2.61
26	0.010	-40.00	120	0.094	-20.54	214	0.746	-2.55	308	0.703	-3.06
28	0.010	-40.00	122	0.110	-19.21	216	0.749	-2.51	310	0.685	-3.29
30	0.010	-40.00	124	0.141	-17.05	218	0.753	-2.46	312	0.664	-3.56
32	0.010	-40.00	126	0.172	-15.31	220	0.755	-2.44	314	0.621	-4.13
34	0.010	-40.00	128	0.203	-13.87	222	0.771	-2.26	316	0.579	-4.75
36	0.010	-40.00	130	0.218	-13.23	224	0.802	-1.92	318	0.536	-5.41
38	0.010	-40.00	132	0.239	-12.44	226	0.833	-1.59	320	0.515	-5.76
40	0.010	-40.00	134	0.267	-11.46	228	0.864	-1.27	322	0.494	-6.13
42	0.010	-40.00	136	0.304	-10.34	230	0.880	-1.11	324	0.451	-6.91
44	0.010	-40.00	138	0.341	-9.34	232	0.876	-1.15	326	0.409	-7.77
46	0.010	-40.00	140	0.378	-8.45	234	0.868	-1.23	328	0.366	-8.72
48	0.010	-40.00	142	0.400	-7.95	236	0.859	-1.32	330	0.345	-9.24
50	0.010	-40.00	144	0.445	-7.04	238	0.851	-1.40	332	0.326	-9.73
52	0.010	-40.00	146	0.489	-6.21	240	0.847	-1.44	334	0.289	-10.78
54	0.010	-40.00	148	0.534	-5.45	242	0.836	-1.56	336	0.252	-11.98
56	0.010	-40.00	150	0.556	-5.10	244	0.813	-1.80	338	0.215	-13.37
58	0.010	-40.00	152	0.578	-4.77	246	0.790	-2.05	340	0.196	-14.15
60	0.010	-40.00	154	0.621	-4.14	248	0.767	-2.30	342	0.182	-14.79
62	0.010	-40.00	156	0.664	-3.56	250	0.756	-2.43	344	0.154	-16.23
64	0.010	-40.00	158	0.707	-3.01	252	0.761	-2.38	346	0.127	-17.95
66	0.010	-40.00	160	0.729	-2.75	254	0.770	-2.27	348	0.099	-20.10
68	0.010	-40.00	162	0.747	-2.54	256	0.779	-2.17	350	0.085	-21.41
70	0.010	-40.00	164	0.783	-2.13	258	0.788	-2.07	352	0.077	-22.23
72	0.010	-40.00	166	0.818	-1.74	260	0.793	-2.01	354	0.062	-24.13
74	0.010	-40.00	168	0.854	-1.37	262	0.812	-1.81	356	0.047	-26.58
76	0.010	-40.00	170	0.872	-1.19	264	0.850	-1.42	358	0.032	-30.00
78	0.010	-40.00	172	0.884	-1.07	266	0.887	-1.04	360	0.020	-33.98
80	0.010	-40.00	174	0.907	-0.85	268	0.925	-0.68			
82	0.010	-40.00	176	0.930	-0.63	270	0.944	-0.50			
84	0.010	-40.00	178	0.953	-0.41	272	0.951	-0.44			
86	0.010	-40.00	180	0.965	-0.31	274	0.965	-0.31			
88	0.010	-40.00	182	0.969	-0.27	276	0.979	-0.18			
90	0.010	-40.00	184	0.978	-0.19	278	0.993	-0.06			
92	0.010	-40.00	186	0.987	-0.11	280	1.000	0.00			

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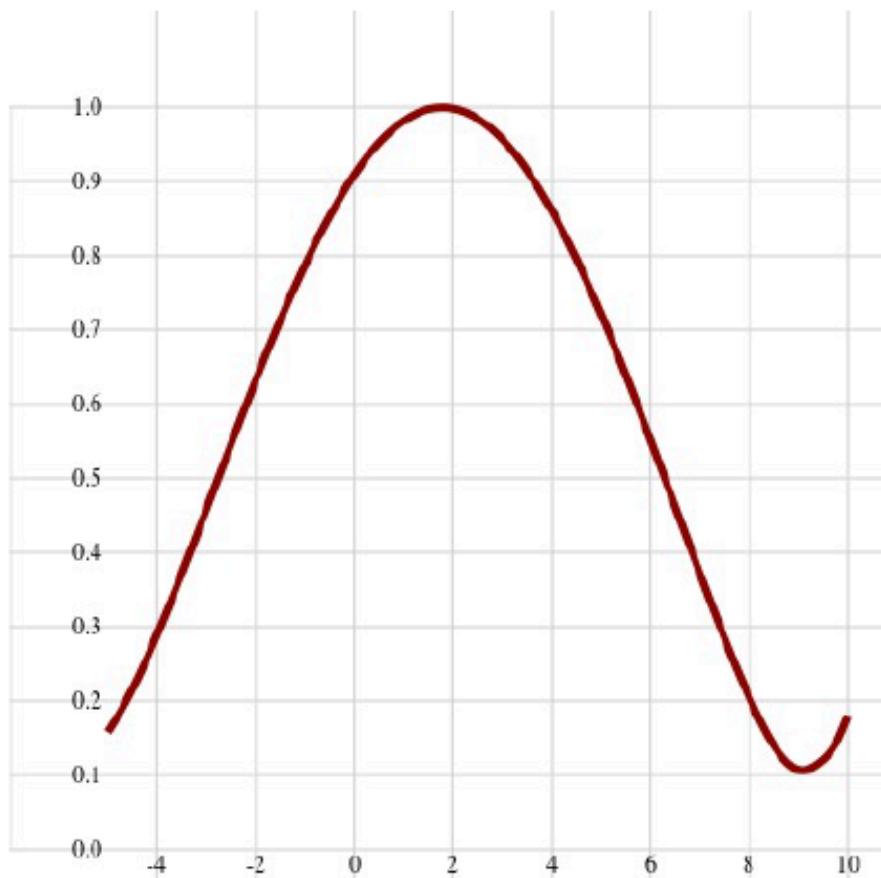
**ANTENNA SPECIFICATIONS**

model no.: ATC-BPE4C2S-U

call sign: KAXT

city of license: San Jose

state: CA

**Elevation pattern -5 to 10**

MARSAND, INC.

Matthew A. Sanderford, Jr., P.E.

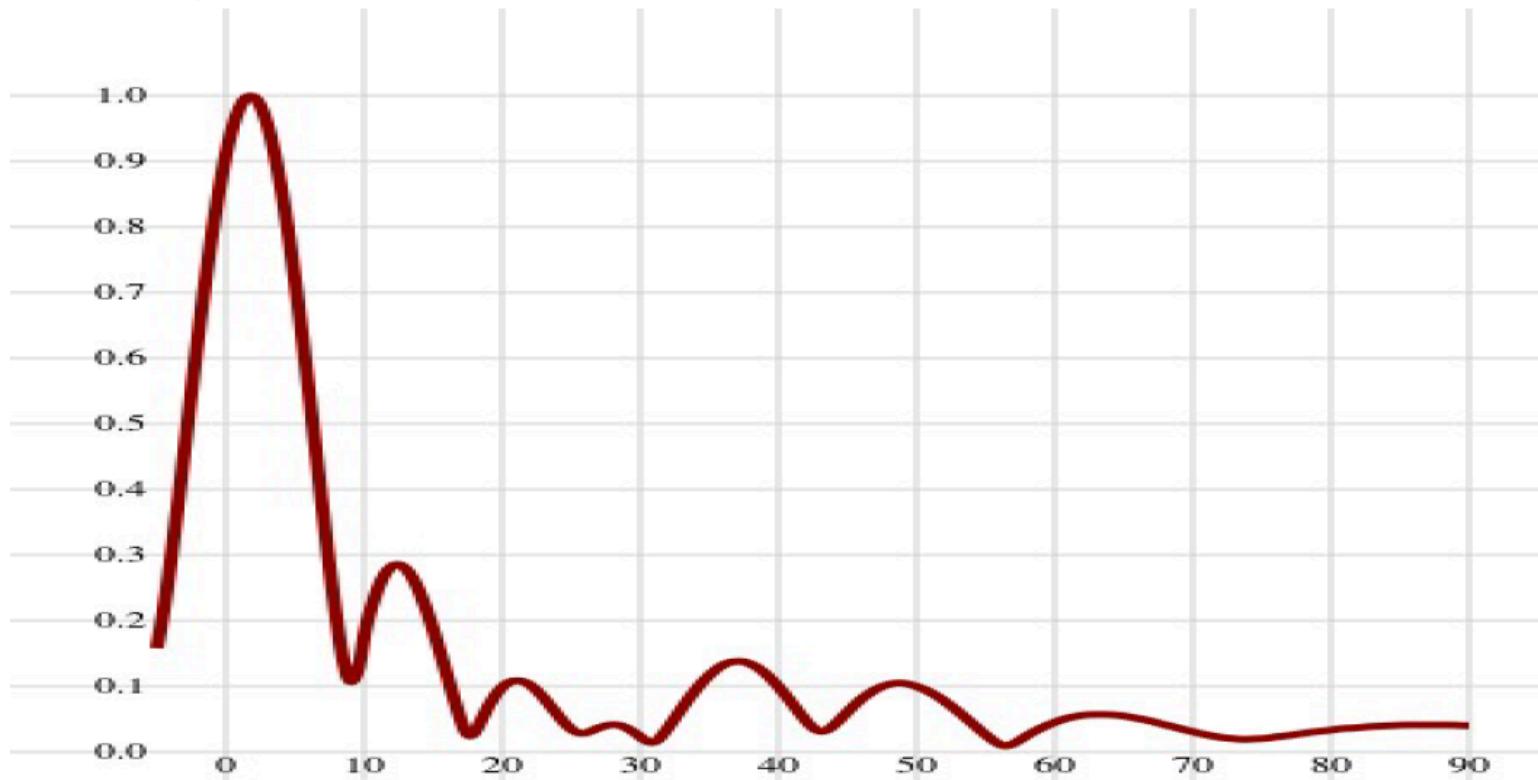
**ANTENNA SPECIFICATIONS**

model no.: ATC-BPE4C2S-U

call sign: KAXT

city of license: San Jose

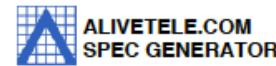
state: CA

**Elevation pattern -5 to 90**

Page 5/9

MARSAND, INC.

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**ANTENNA SPECIFICATIONS**

model no.: ATC-BPE4C2S-U

call sign: KAXT

city of license: San Jose

state: CA

Elevation Pattern Tabulation

-5 to 10 in 0.25 increments, 10 to 90 in 0.50 increments

Angle	Field	dB									
-5.00	0.158	-16.03	8.75	0.116	-18.71	35.00	0.117	-18.64	62.50	0.057	-24.88
-4.75	0.184	-14.70	9.00	0.105	-19.58	35.50	0.126	-17.99	63.00	0.057	-24.88
-4.50	0.215	-13.35	9.25	0.108	-19.33	36.00	0.133	-17.52	63.50	0.057	-24.88
-4.25	0.250	-12.04	9.50	0.120	-18.42	36.50	0.137	-17.27	64.00	0.057	-24.88
-4.00	0.289	-10.78	9.75	0.138	-17.20	37.00	0.138	-17.20	64.50	0.056	-25.04
-3.75	0.329	-9.66	10.00	0.180	-14.89	37.50	0.138	-17.20	65.00	0.055	-25.19
-3.50	0.371	-8.61	10.50	0.219	-13.19	38.00	0.134	-17.46	65.50	0.053	-25.51
-3.25	0.414	-7.66	11.00	0.250	-12.04	38.50	0.129	-17.79	66.00	0.051	-25.85
-3.00	0.458	-6.78	11.50	0.272	-11.31	39.00	0.121	-18.34	66.50	0.049	-26.20
-2.75	0.502	-5.99	12.00	0.284	-10.93	39.50	0.111	-19.09	67.00	0.047	-26.56
-2.50	0.546	-5.26	12.50	0.287	-10.84	40.00	0.100	-20.00	67.50	0.044	-27.13
-2.25	0.590	-4.58	13.00	0.281	-11.03	40.50	0.087	-21.21	68.00	0.041	-27.74
-2.00	0.632	-3.99	13.50	0.287	-11.47	41.00	0.074	-22.62	68.50	0.039	-28.18
-1.75	0.674	-3.43	14.00	0.246	-12.18	41.50	0.060	-24.44	69.00	0.036	-28.87
-1.50	0.714	-2.93	14.50	0.219	-13.19	42.00	0.047	-26.56	69.50	0.033	-29.83
-1.25	0.752	-2.48	15.00	0.188	-14.52	42.50	0.036	-28.87	70.00	0.031	-30.17
-1.00	0.788	-2.07	15.50	0.153	-16.31	43.00	0.030	-30.46	70.50	0.028	-31.06
-0.75	0.823	-1.69	16.00	0.118	-18.56	43.50	0.032	-29.90	71.00	0.026	-31.70
-0.50	0.854	-1.37	16.50	0.082	-21.72	44.00	0.040	-27.96	71.50	0.024	-32.40
-0.25	0.883	-1.08	17.00	0.048	-26.38	44.50	0.050	-26.02	72.00	0.022	-33.15
0.00	0.910	-0.82	17.50	0.021	-33.56	45.00	0.061	-24.29	72.50	0.021	-33.56
0.25	0.933	-0.60	18.00	0.026	-31.70	45.50	0.071	-22.97	73.00	0.020	-33.98
0.50	0.953	-0.42	18.50	0.049	-26.20	46.00	0.081	-21.83	73.50	0.019	-34.42
0.75	0.969	-0.27	19.00	0.070	-23.10	46.50	0.088	-21.11	74.00	0.019	-34.42
1.00	0.982	-0.16	19.50	0.087	-21.21	47.00	0.095	-20.45	74.50	0.020	-33.98
1.25	0.992	-0.07	20.00	0.099	-20.09	47.50	0.100	-20.00	75.00	0.020	-33.98
1.50	0.998	-0.02	20.50	0.107	-19.41	48.00	0.103	-19.74	75.50	0.021	-33.56
1.75	1.000	0.00	21.00	0.109	-19.25	48.50	0.105	-19.58	76.00	0.023	-32.77
2.00	0.999	-0.01	21.50	0.108	-19.33	49.00	0.105	-19.58	76.50	0.024	-32.40
2.25	0.994	-0.05	22.00	0.103	-19.74	49.50	0.103	-19.74	77.00	0.025	-32.04
2.50	0.985	-0.13	22.50	0.094	-20.54	50.00	0.100	-20.00	77.50	0.027	-31.37
2.75	0.973	-0.24	23.00	0.083	-21.62	50.50	0.098	-20.35	78.00	0.028	-31.06
3.00	0.957	-0.38	23.50	0.070	-23.10	51.00	0.091	-20.82	78.50	0.030	-30.46
3.25	0.938	-0.56	24.00	0.057	-24.88	51.50	0.085	-21.41	79.00	0.031	-30.17
3.50	0.915	-0.77	24.50	0.044	-27.13	52.00	0.078	-22.16	79.50	0.032	-29.90
3.75	0.889	-1.02	25.00	0.034	-29.37	52.50	0.070	-23.10	80.00	0.033	-29.63
4.00	0.861	-1.30	25.50	0.028	-31.06	53.00	0.062	-24.15	80.50	0.035	-29.12
4.25	0.830	-1.62	26.00	0.028	-31.06	53.50	0.053	-25.51	81.00	0.036	-28.87
4.50	0.796	-1.98	26.50	0.032	-29.90	54.00	0.044	-27.13	81.50	0.036	-28.87
4.75	0.759	-2.40	27.00	0.037	-28.64	54.50	0.035	-29.12	82.00	0.037	-28.64
5.00	0.721	-2.84	27.50	0.040	-27.98	55.00	0.026	-31.70	82.50	0.038	-28.40
5.25	0.681	-3.34	28.00	0.042	-27.54	55.50	0.018	-34.89	83.00	0.039	-28.18
5.50	0.639	-3.89	28.50	0.041	-27.74	56.00	0.011	-39.17	83.50	0.039	-28.18
5.75	0.596	-4.50	29.00	0.037	-28.64	56.50	0.008	-41.94	84.00	0.040	-27.96
6.00	0.552	-5.16	29.50	0.031	-30.17	57.00	0.012	-38.42	84.50	0.040	-27.96
6.25	0.507	-5.90	30.00	0.023	-32.77	57.50	0.018	-34.89	85.00	0.041	-27.74
6.50	0.462	-6.71	30.50	0.015	-36.48	58.00	0.025	-32.04	85.50	0.041	-27.74
6.75	0.417	-7.60	31.00	0.013	-37.72	58.50	0.031	-30.17	86.00	0.041	-27.74
7.00	0.372	-8.59	31.50	0.022	-33.15	59.00	0.036	-28.87	86.50	0.041	-27.74
7.25	0.327	-9.71	32.00	0.036	-28.87	59.50	0.041	-27.74	87.00	0.041	-27.74
7.50	0.284	-10.93	32.50	0.051	-25.85	60.00	0.045	-26.04	87.50	0.041	-27.74
7.75	0.243	-12.29	33.00	0.066	-23.61	60.50	0.049	-26.20	88.00	0.041	-27.74
8.00	0.204	-13.81	33.50	0.081	-21.83	61.00	0.052	-25.68	88.50	0.041	-27.74
8.25	0.168	-15.49	34.00	0.094	-20.54	61.50	0.054	-25.35	89.00	0.041	-27.74
8.50	0.138	-17.20	34.50	0.107	-19.41	62.00	0.056	-25.04	89.50	0.040	-27.96
8.75	0.116	-18.71	35.00	0.117	-18.64	62.50	0.057	-24.88	90.00	0.040	-27.96