

Technical Report KZST(FM) HD Auxiliary Application

This technical report is submitted for an auxiliary HD application for KZST(FM) 261A at Santa Rosa, CA, FCC file no. BLH-19991015ABU.

KZST(FM) HD1 Auxiliary Analysis:

The KZST(FM) HD auxiliary facility will be co-located on an existing 10 meter tower at coordinates:

38 25 06N 122 40 33W NAD 27.

A TOWAIR determination (exhibit E-1) shows the tower does not require registration. A Jampro JLCP single bay, nondirectional antenna will be mounted at a COR AGL of 9 meters, 229 meters AMSL and operate at 60 Watts ERP. The FCC 30 second terrain HAAT is 54 meters (exhibit E-2), which is greater than 70% of the primary KZST(FM) HAAT of 75 meters. The auxiliary HD1 facility 60 dBu contour is contained within the primary KZST(FM) 60 dBu contour (exhibit E-3).

RF Exposure Calculation:

The RF contribution was calculated using FMModel (exhibit E-4), and is calculated to be $18.2 \mu\text{W}/\text{cm}^2$ at a distance of 7 meters from the base of the tower. The RF contribution for the primary KZST(FM) facility is calculated to be $92.4 \mu\text{W}/\text{cm}^2$ at a distance of 10 meters (exhibit E-5) resulting in a combined $110.6 \mu\text{W}/\text{cm}^2$, which is below the $200 \mu\text{W}/\text{cm}^2$ maximum permissible for occupational/controlled exposure. The KZST(FM) auxiliary facility will not be operated simultaneously with the KJZY(FM) auxiliary facility, with which it will share the antenna .

Conclusion:

It is concluded that the KZST(FM) HD auxiliary application complies with all Commission rules and policies.



Christopher Anderson July 02, 2018
andersc@bham.rr.com
© 2018 Anderson Associates

TOWAIR Determination Results

***** NOTICE *****

TOWAIR's findings are not definitive or binding, and we cannot guarantee that the data in TOWAIR are fully current and accurate. In some instances, TOWAIR may yield results that differ from application of the criteria set out in 47 C.F.R. Section 17.7 and 14 C.F.R. Section 77.13. A positive finding by TOWAIR recommending notification should be given considerable weight. On the other hand, a finding by TOWAIR recommending either for or against notification is not conclusive. It is the responsibility of each ASR participant to exercise due diligence to determine if it must coordinate its structure with the FAA. TOWAIR is only one tool designed to assist ASR participants in exercising this due diligence, and further investigation may be necessary to determine if FAA coordination is appropriate.

DETERMINATION Results

Structure does not require registration. There are no airports within 8 kilometers (5 miles) of the coordinates you provided.

Your Specifications

NAD83 Coordinates

Latitude	38-25-06.0 north
Longitude	122-40-37.0 west

Measurements (Meters)

Overall Structure Height (AGL)	10
Support Structure Height (AGL)	0
Site Elevation (AMSL)	220

Structure Type

GTOWER - Guyed Structure Used for Communication Purposes

E-2 KZST(FM) Aux. HAAT Calculation

N. Lat. = 382506 W. Lng. = 1224033

HAAT and Distance to Contour,

FCC, FM 2-10 Mi, 51 pts Method - FCC 30 SEC

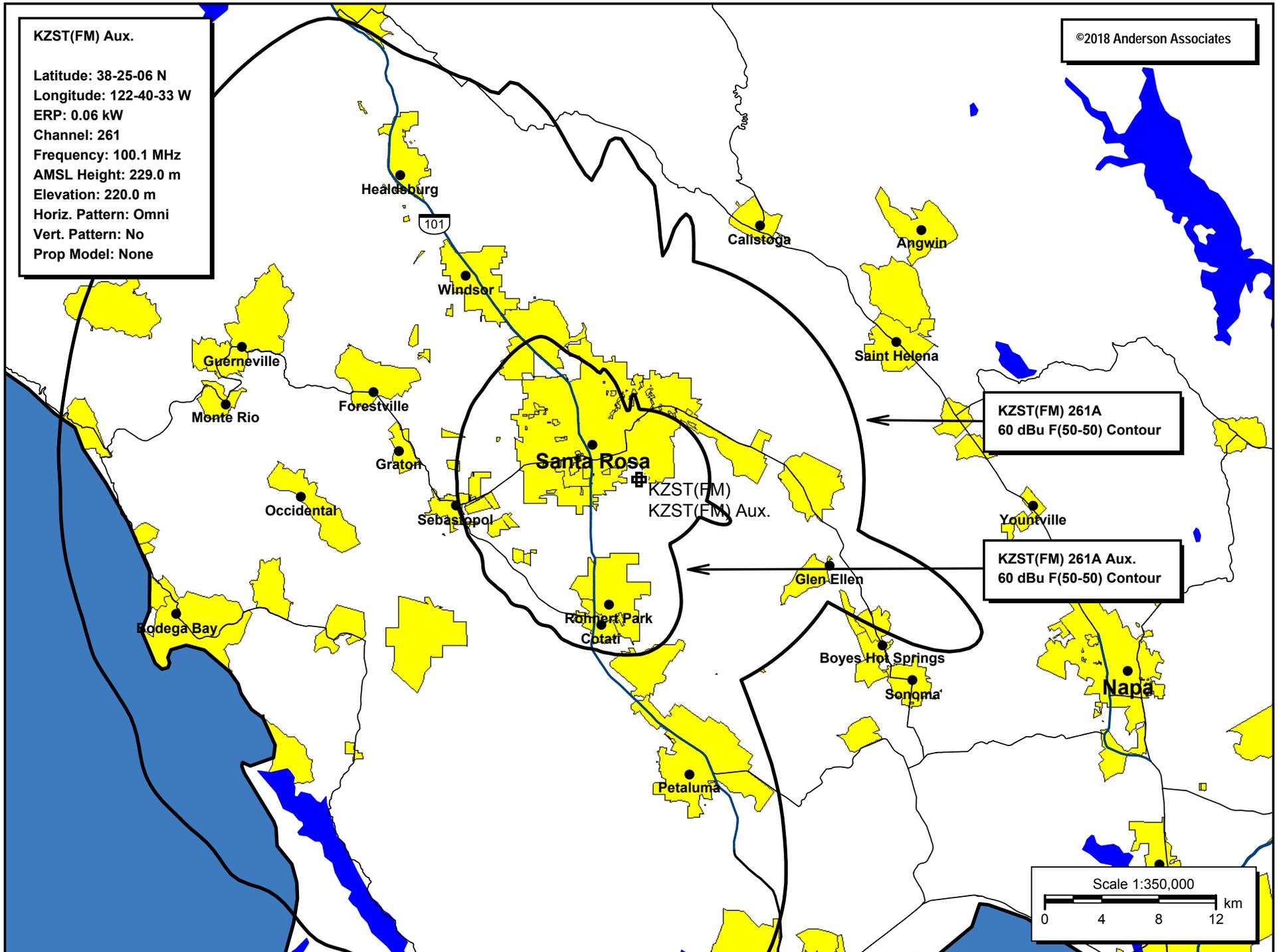
KJZY Aux., Redwood Empire Stereocasters, BLH20000119AAK

Azi. AV EL HAAT ERP kW 60-F(50-50)

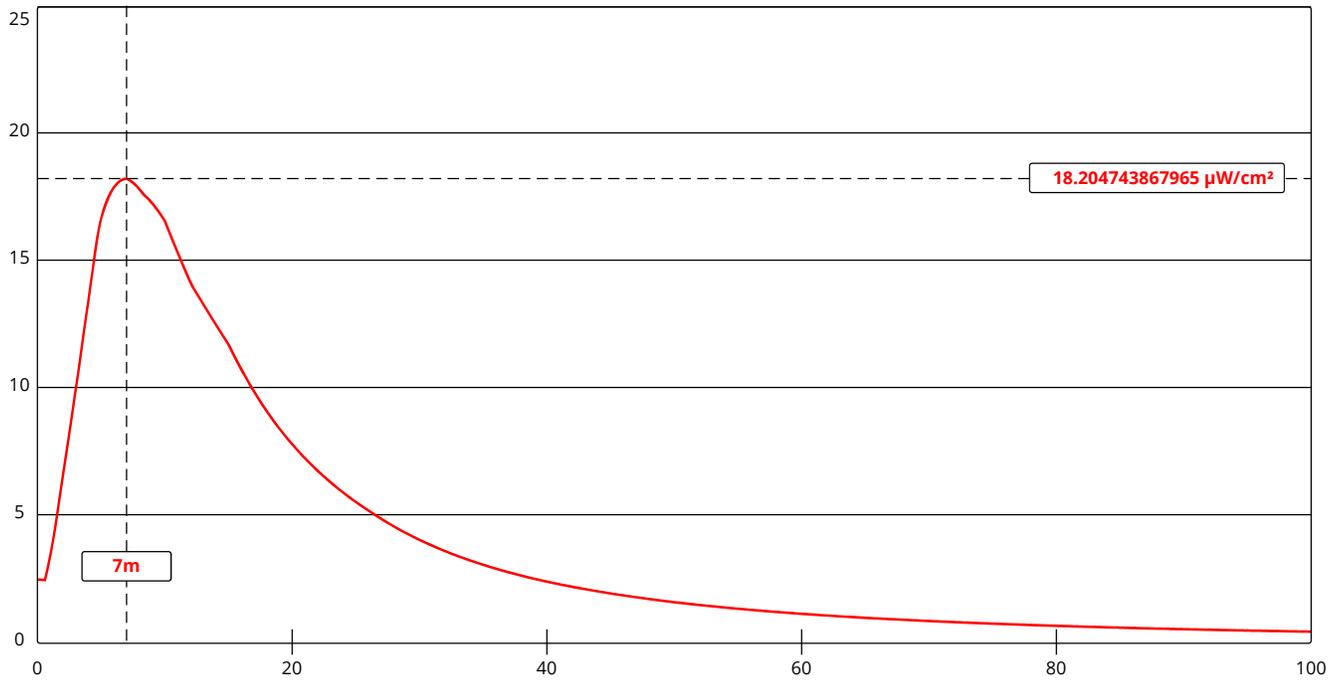
000	198.2	30.8	0.0600	5.00
045	328.3	-99.3	0.0600	4.94
090	292.6	-63.6	0.0600	4.94
135	417.6	-188.6	0.0600	4.94
180	49.5	179.5	0.0600	12.22
225	44.3	184.7	0.0600	12.37
270	31.1	197.9	0.0600	12.77
315	37.8	191.2	0.0600	12.57

Ave El= 174.92 M HAAT= 54.08 M AMSL= 229 M

E-3 KZST(FM) Aux. 60 dBu Contour Plot

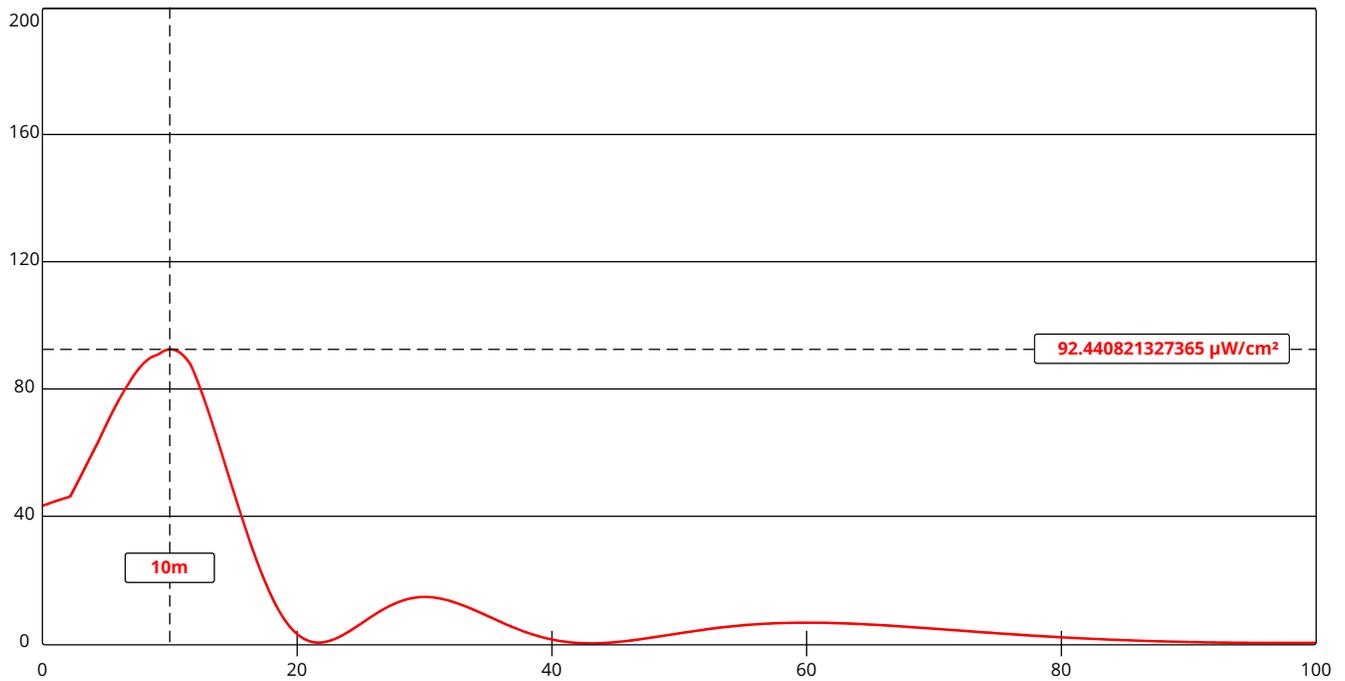


E-4 KZST(FM) 261A Aux. RF Calculation



Channel Selection	Channel 229 (93.7 MHz)		
Antenna Type +	EPA Type 3: Opposed U Dipole		
Height (m)	9	Distance (m)	100
ERP-H (W)	60	ERP-V (W)	60
Num of Elements	1	Element Spacing (λ)	1
Num of Points	500		

E-5 KZST(FM) 261A RF Calculation



Channel Selection	Channel 261 (100.1 MHz)		
Antenna Type +	EPA Type 4: Two-Piece Spiral		
Height (m)	27	Distance (m)	100
ERP-H (W)	6000	ERP-V (W)	6000
Num of Elements	4	Element Spacing (λ)	1
Num of Points	500		