Educational Media Foundation
5700 West Oaks Boulevard
Rocklin, CA 95765

KYDA
Azle, TX

Engineering Exhibit

Educational Media Foundation (EMF) is the licensee of KYDA(FM), Facility ID 28122, Channel 269C, Azle, TX (file number BMLED-20121119AJA). The purpose of this License Modification is to specify a change in the KYDA transmit antenna.

The KYDA antenna which is shared with two other full-power stations, became defective and has been replaced. The other stations that share the antenna are KBOC, Ch 252C, Facility ID 64694, Bridgeport, TX and KAAZ Ch 297C, Facility ID 23017, Muenster, TX.

The replacement antenna consists of 10 circularly polarized elements, spaced at intervals of 0.995 wavelength on KYDA's frequency (101.7 MHz). The included Transmitter Power Output summary shows the calculation of the KYDA replacement antenna along with the combiner and transmission line factors resulting in a TPO of 23.5 kW (rounded) to produce the KYDA licensed 92kw ERP.

Spurious emissions measurements were conducted at the antenna replacement. The measurement report summary is attached separately. The measurements show that KYDA is in compliance with sections 73.317(b) through 73.317(d) of the FCC's rules, as summarized in the following:

§73.317(b): Any emission appearing on a frequency removed from the carrier by between 120 kHz and 240 kHz inclusive was found to be attenuated at least 25 dB below the level of the unmodulated carrier.

§73.317(c): Any emission appearing on a frequency removed from the carrier by more than 240 kHz and up to and including 600 kHz was found to be attenuated at least 35 dB below the level of the unmodulated carrier.

§73.317(d) Any emission appearing on a frequency removed from the carrier by more than 600 kHz was found to be attenuated at least 43 + 10 Log10 (Power, in Watts) dB below the level of the unmodulated carrier, or 80 dB, whichever is the lesser attenuation.

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Environmental Compliance

The KYDA replacement antenna was evaluated for human exposure to RF energy using the procedures outlined in the FCC's OET Bulletin Number 65. The transmitting antenna is a Dielectric model DCRS10DC consisting of 10 bay levels spaced 115.5 inches between sections which is 0.995 wavelength spacing at KYDA's frequency (101.7 MHz). According to the FCC's "FMModel" software analysis for an EPA Type-5 antenna type, the graph in Figure 1 depicts calculated power density levels attributable to the KYDA facility at locations near the tower at a height of two meters above ground level. That analysis shows that the maximum calculated RF electromagnetic field attributable to KYDA is 2.0 μW/cm2, which is 1.0 percent of the general population/uncontrolled maximum permitted exposure limit. This is below the five percent threshold limit described in §1.1307(b) regarding sites with multiple emitters, categorically excluding the applicant from responsibility for taking any corrective action in the areas where the proposal's contribution is less than five percent.

The general public will not be exposed to RF levels attributable to the proposal in excess of the FCC's guidelines. RF exposure warning signs will continue to be posted. With respect to worker safety, the applicant will coordinate exposure procedures with all pertinent stations and will reduce power or cease operation as necessary to protect persons having access to the site, tower, or antenna from RF electromagnetic field exposure in excess of FCC guidelines. This exhibit is limited to the evaluation of exposure to RF electromagnetic field.

Transmitter Power Output Calculation

DESCRIPTION: TRANSMITTER POWER OUTPUT

AUTHORIZED ERP: 92 KILOWATTS
DIELECTRIC DCRS10C ANTENNA GAIN AT 101.7MHZ: 5.20
1971 FEET 6-1/8" RIGID TRANSMISSION LINE EFFICIENCY AT 101.7MHZ: .801
DIELECTRIC COMBINER EFFICIENCY AT 101.7MHZ: .957
80 FEET 3-1/8" RIGID TRANSMISSION LINE EFFICIENCY AT 101.7MHZ: .983
TPO: 23,479.372 WATTS

CONFIRMATION: 23,479.372 X 5.2 X .801 X .957 X .983 = 91,999.988 WATTS

NOTE: TRANSMITTER POWER OUTPUT FIGURE SHOWN AS 23.5KW DUE TO ROUNDING AND RESOLUTION OF THE FORM.

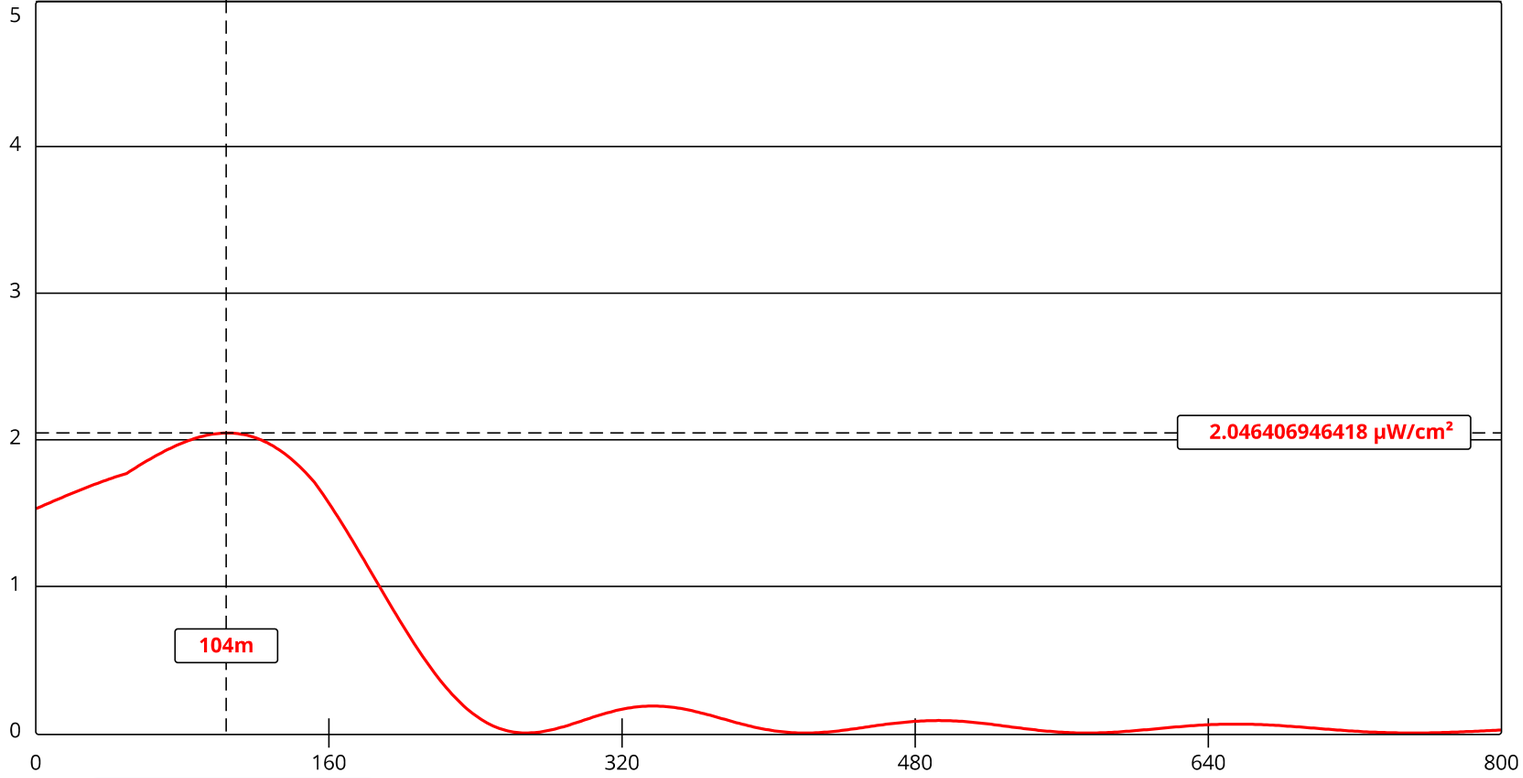

Figure 1
RF Electromagnetic Field
FCC FMModel Results
KYDA Azle, TX
Facility ID 28122
Ch 269C (101.7 MHz) 93kw 620m

View Tabular Results +

Channel Selection	Channel 269 (101.7 MHz)		
Antenna Type +	EPA Type 5: Three-Piece or Four-Piece Spiral		
Height (m)	570	Distance (m)	800
ERP-H (W)	93000	ERP-V (W)	93000
Num of Elements	10	λ	.995
Num of Points	500	Apply	

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