

### SECTION III - LICENSE APPLICATION ENGINEERING DATA

Name of Applicant

DAIJ Media, LLC.

PURPOSE OF AUTHORIZATION APPLIED FOR: (check one)

AMENDED

☒ Station License

☐ Direct Measurement of Power

2015 NOV -6 P 5:13

#### 1. Facilities authorized in construction permit

Call Sign	File No. of Construction Permit (if applicable)	Frequency (kHz)	Hours of Operation	Power in kilowatts	
KRCM	BP-20120110AEV	1380	Unlimited	Night 0.050	Day 22.0

#### 2. Station location

State  Texas	City or Town  Shenandoah
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#### 3. Transmitter location

State  TX	County  Waller	City or Town  Hempstead	Street address (or other identification) 34312 Mayer Road
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#### 4. Main studio location

State  TX	County  Harris	City or Town  Pasadena	Street address (or other identification) 1600 Pasadena Blvd
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#### 5. Remote control point location (specify only if authorized directional antenna)

State  TX	County  Harris	City or Town  Pasadena	Street address (or other identification) 1600 Pasadena Blvd
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6. Has type-approved stereo generating equipment been installed?

☐ Yes ☒ No

7. Does the sampling system meet the requirements of 47 C.F.R. Section 73.68?

☒ Yes ☐ No

☐ Not Applicable

Attach as an Exhibit a detailed description of the sampling system as installed.

Exhibit No.  
7 and 10

#### 8. Operating constants:

RF common point or antenna current (in amperes) without modulation for night system 1.01	RF common point or antenna current (in amperes) without modulation for day system 20.9
Measured antenna or common point resistance (in ohms) at operating frequency Night 53.0 Day 53.0	Measured antenna or common point reactance (in ohms) at operating frequency Night -j 2.5 Day -j 2.5

#### Antenna indications for directional operation

Towers	Antenna monitor Phase reading(s) in degrees		Antenna monitor sample current ratio(s)		Antenna base currents	
	Night	Day	Night	Day	Night	Day
1 (NE)	-74.9	-74.9	0.515	0.515		
2 (C)	0.0	0.0	1.000	1.000		
3 (SW)	+74.9	+74.9	0.558	0.558		

Manufacturer and type of antenna monitor:

Potomac Instruments AM-1901-3

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9. Description of antenna system (If directional antenna is used, the information requested below should be given for each element of the array. Use separate sheets if necessary.)

Type Radiator	Overall height in meters of radiator above base insulator, or above base, if grounded.	Overall height in meters above ground (without obstruction lighting)	Overall height in meters above ground (include obstruction lighting)	If antenna is either top loaded or sectionalized, describe fully in an Exhibit.
3 uniform cross-section, base insulated, guyed, vertical steel towers.	54.85 m	56.0 m	56.0 m	Exhibit No. DNA

Excitation                      ☒ Series                      ☐ Shunt

Geographic coordinates to nearest second. For directional antenna give coordinates of center of array. For single vertical radiator give tower location.

North Latitude	30 °	07 '	40 "	West Longitude	95 °	57 '	35 "
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If not fully described above, attach as an Exhibit further details and dimensions including any other antenna mounted on tower and associated isolation circuits.

Exhibit No.  
DNA

Also, if necessary for a complete description, attach as an Exhibit a sketch of the details and dimensions of ground system.

Exhibit No.  
Tech. Stm.

10. In what respect, if any, does the apparatus constructed differ from that described in the application for construction permit or in the permit?

There are no differences from the Construction Permit, nor CP application.

11. Give reasons for the change in antenna or common point resistance.

(newly constructed and newly established)

I certify that I represent the applicant in the capacity indicated below and that I have examined the foregoing statement of technical information and that it is true to the best of my knowledge and belief.

Name (Please Print or Type)	Signature (check appropriate box below)
Lyndon H. Willoughby	<i>Lyndon H. Willoughby</i>
Address (include ZIP Code)	Date
Willoughby & Voss, LLC. P.O. Box 701190 San Antonio, TX 72270-1190	July 15, 2015, AMENDED 10/16/2015
	Telephone No. (Include Area Code)
	210-525-1111

☐ Technical Director

☐ Registered Professional Engineer

☐ Chief Operator

☒ Technical Consultant

☐ Other (specify)

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## WILLOUGHBY & VOSS

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### KRCM - Direct Measurement of Power - Exhibit 9 AMENDED

Measurement of the Common Point Impedance for each pattern was made with a Hewlett-Packard 8753-C Vector Network Analyzer and a Tunwall Radio Directional Coupler. The analyzer was connected at the node directly adjacent to the common point current meter. The resistance value was adjusted with the common point matching network to provide the correct impedance at the authorized common point current value for each directional antenna pattern. The measured Common Point Impedance is  $R = 53.0 \text{ Ohms}$ ,  $X = -j2.5 \text{ Ohms}$  for both Day and Night operation. Based on a Daytime antenna input power of 23.1 kW ( $22.0 \text{ kW} \times 1.05$ ) the common point current is 20.9 Amperes. Based on a Nighttime antenna input power of 0.054 kW ( $0.05 \text{ kW} \times 1.08$ ) the common point current is 1.01 Amperes.

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### KRCM - Antenna Monitor and Sample System - Exhibit 10 AMENDED

KRCM utilizes a Potomac Instruments AM-1901-3 antenna monitor. The antenna monitor, Serial Number 923, was factory calibrated 03/24/2015. The calibration of the antenna monitor was verified in the field as part of the Proofing procedures. The antenna monitor is provided an ATU output sample over equal length (see Exhibit 7) sample lines from Delta Electronics Toroidal Current Transformers, model TCT-3, that provides a 1.0 volt per ampere. The sample lines are Andrew LDF-38-50J, three-eighths inch foam dielectric, solid outer conductor coaxial cable.

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### KRCM - Reference Field Strength Measurements - Exhibit 8 AMENDED

Reference field strength measurements were made using a Potomac Instruments FIM-4100 meter, factory calibrated May 20, 2011. Measurements were made at three point locations along each construction permit radial (31, 166.5, 201.5, 220.5, and 255.5 degrees) and along a radial thru the major lobes (80 and 345 Degrees) of directional pattern.

The Daytime Reference Field Strength measurements were made on October 14, 2015, between 0930 and 1500 CDT, with an antenna input power of 23.17 kW.

The Nighttime Reference Field Strength measurements on radials 31, 121, 166.5, 201.5, 220.5 and 255.5 degrees were made on July 13, 2015, between 0900 and 1600 CDT, with an antenna input power of 54 watts. Major lobe radials, (80 and 345 degrees) were measured October 15, 2015, between 0930 and 1100 CDT.

The following pages contain the distances, measured field strength values, GPS coordinates and a brief point description.

**KRCM, 1380 kHz.**  
**AMENDED Reference Field Strength Measurements**

Radial Deg. T	Point Num.	Distance (km)	Day Fld (mV/m)	Night Fld (mV/m)	Coordinates Lat. N Long. W	Description
31 CP	1	3.74	467.	29.0	30-09-23.2 95-56-23.5	On FM1488, 0.3 mi. North of Joseph Rd.
	2	6.40	195.	9.8	30-10-37.7 95-55-33.8	On FM362, 0.15 mi. North of Bruner Rd.
	3	8.77	114.	5.2	30-11-42.7 95-54-46.5	On Howell Rd., 0.15 mi. West of sharp turn.
121	1	4.32	235.	12.0	30-06-28.0 95-55-17.1	On Field Store Rd., 0.15 mi. North of big ditch.
	2	5.65	190.	9.8	30-06-05.8 95-54-34.8	On Stokes Rd. 0.55 mi. South of Castle Rd.
	3	7.01	104.	7.9	30-05-42.6 95-53-51.3	On Vining Rd. 0.3 mi west of Binford Rd.
166.5 CP	1	4.61	17.8	11.2	30-05-14.5 95-56-57.1	On Owens Rd. 0.85 mi. West of FM362.
	2	7.80	14.0	4.8	30-03-34.3 95-56-27.7	On Old Houston Hwy. 0.4 mi. West of FM362.
	3	9.76	10.9	2.5	30-02-32.2 95-56-14.3	On FM362 at Mound Creek.
201.5 CP	1	4.83	10.9	0.82	30-05-14.6 95-58-42.9	On Owens Rd. 0.2 mi. East of "B" Street.
	2	6.85	9.4	0.68	30-04-13.8 95-59-10.6	On Old Houston Hwy. 0.4 mi. East of Cochran Rd.
	3	8.40	4.5	0.60	30-03-26.4 95-59-29.8	On Brumlow Rd. 200 ft. East of Cochran Rd.

KRCM, 1380 kHz.  
AMENDED Reference Field Strength Measurements

Radial Deg. T	Point Num.	Distance (km)	Day Fld (mV/m)	Night Fld (mV/m)	Coordinates Lat. N	(NAD 83) Long. W	Description
220.5 CP	1	5.63	10.5	0.66	30-05-21.4	95-59-52.9	On FM1098 at center of curve.
	2	7.53	4.5	0.60	30-04-34.3	96-00-38.7	On Pine Island Rd. & Old Houston, 10 ft. South of St. sign
	3	10.19	5.0	0.45	30-03-29.1	96-01-43.5	On Brumlow Rd. Halfway between left & right turns.
255.5 CP	1	3.02	32.0	1.6	30-07-14.3	95-59-24.8	On FM1098, 0.15 mi. South of Mayer Rd.
	2	6.85	14.3	0.82	30-06-45.7	96-01-44.4	On FM1488, 300 ft. SW of road on the right.
	3	8.55	6.5	0.28	30-06-32.5	96-02-45.9	Mack Washington & FM1488 in SE corner of parking lot.
80.0	1	4.73	486.	22.5	30-08-06.0	95-54-41.3	Field Store Rd. 0.49 mi. North of Spring Creek.
	2	8.00	258.	12.0	30-08-24.6	95-52-40.9	Kickapoo Rd. at Hegar Rd.
	3	13.0	154.	7.0	30-08-50.6	95-49-37.2	Macedonia Rd. 200 ft. North of Joseph Rd.
345.0	1	3.45	600.	28.0	30-09-27.6	95-58-08.9	Mitchell Rd. 0.1 mi. East of Nelson Rd.
	2	5.27	392.	17.5	30-10-24.6	95-58-26.8	Giboney Rd. 0.3 mi. West of FM1736.
	3	7.53	277.	11.9	30-11-35.2	95-58-48.4	Howell Rd. 0.65 mi. West of Wallergladish Rd.