

**Comprehensive Engineering Exhibit**  
**KDZA-FM Facility ID No.: 40848**  
**Minor Change in Licensed Facility BLH-20080122APH**  
**December 2017**

This application is contingent with an application to modify co-owned station KBPI(FM) Fort Collins, Colorado, Facility I.D. No.:68976, CDBS File Number BPH-20171103AAI, which is filing to amend for contingency the same day as this instant application.

By this application it is sought to reduce the permitted directional antenna relative field values along 3 radials of arc; 350°T, 000°T, and 010°T, toward the proposed modification of KBPI with no physical changes to the facility. This “paper change” will match permitted values more precisely with those demonstrated in the proof of performance for the current antenna as licensed. There will be NO physical construction or modification in any way to the physical facilities of KDZA-FM.

The contingent KBPI application is to correct the geographic coordinates and elevation of the facility to match those of a recent site survey. This instant modification of the KDZA-FM pattern will allow correction of KBPI without any changes to its operating parameters.

The KDZA-FM antenna is directional and is located 52 meters above ground level upon a tower which does not require registration. This tower has an overall height of 60.7 meters, with a base elevation of 2876 meters above mean sea level, located at 38-44-41.0 N 104-51-46.0 W.

From this location KDZA-FM is fully spaced as a Class C0 facility in accordance with Section 73.207 to all known facilities, applications and allocations, with the exception of KBPI, Fort Collins, CO for which a contingent application is being filed. This application requests processing pursuant to Section 73.215 with respect to KBPI. Prohibited contour overlap will be prevented by use of a directional antenna as well as a reduction in effective radiated power. A map below demonstrates this compliance.

The proposed facility is at a Height Above Average Terrain (HAAT) 224 meters greater than maximum for Class C0, the web tool “FMpower” was utilized to determine the equivalent maximum power of 32 kW

The proposed facilities were evaluated in terms of potential radio frequency radiation exposure at ground level in accordance with OET Bulletin No. 65, “Evaluating Compliance With FCC-Specified Guidelines for Human Exposure to Radio frequency Radiation.”

The proposed antenna system is an EPA type 3, 6- bay, 0.5 wave spaced “Roto Tiller” style antenna, mounted with its center of radiation 52 meters above ground level. This proposal will operate with an effective radiated power of 32 kilowatts in both the horizontal and vertical planes. At 2 meters above ground, at 300 meters from the base of

the tower, this proposal will contribute worst case 9.64 microwatts per square centimeter, or 0.96 percent of the allowable ANSI limit for controlled exposure, and 4.8 percent of the allowable limit for uncontrolled exposure. This figure is less than 5% of the applicable FCC exposure limit at all locations extending out from the base of the tower. Section 1.1307(b)(3) excludes applications when the calculated level is predicted to be less than 5% of the applicable exposure limit. It is therefore believed that this proposal is in compliance with OET Bulletin Number 65 as required by the Federal Communications Commission.

Further, the applicant will see that signs are posted in the vicinity of the tower, warning of potential radio frequency hazards at the site. The site itself is restricted from public access. The applicant will cooperate with other users of the tower to reduce power of the facility, or discontinue operation, as necessary to limit human exposure to levels less than specified by the Federal Communications Commission should anyone be required to climb the tower for maintenance or inspection.

# Spacing Study

KDZA to KBPI (Was KPAW) Test 13-Dec-2017  
 Capstar TX, Llc

REFERENCE CH# 300C0 - 107.9 MHz, Pwr= 32 kW DA, HAAT= 672.5 M, COR= 2928 M      DISPLAY DATES  
 38 44 41.0 N.      Average Protected F(50-50)= 82.98 km      DATA 12-13-17  
 104 51 46.0 W.      73.215 Directional      SEARCH 12-13-17

| CH<br>CITY | CALL                    | TYPE<br>STATE | ANT<br>AZI<br><-- | DIST<br>FILE #            | LAT<br>LNG                | PWR(kw)<br>HAAT(M) | INT(km)<br>COR(M) | PRO(km)<br>LICENSEE                | *IN*<br>(Overlap in km) | *OUT*   |
|------------|-------------------------|---------------|-------------------|---------------------------|---------------------------|--------------------|-------------------|------------------------------------|-------------------------|---------|
| 300C0      | KDZA-FM<br>Pueblo       | LIC ZCX<br>CO | 0.0<br>0.0        | 0.00<br>BLH20080122APH    | 38 44 41.0<br>104 51 46.0 | 32.000<br>674      | 141.6<br>2928     | 62.4<br>Capstar TX, Llc            | -199.1*                 | -195.9* |
| 300C1      | KBPI<br>Fort Collins    | APP NCX<br>CO | 353.3<br>173.1    | 240.75<br>BPH20171103AAI  | 40 53 41.7<br>105 11 49.4 | 100.000<br>266     | 181.7<br>2221     | 78.8<br>Citicasters Licenses, Inc. | 0.0                     | 25.8    |
| 298C       | KQKS«<br>Lakewood       | LIC _C_<br>CO | 346.3<br>166.1    | 108.76<br>BLH19991214ABI  | 39 41 45.0<br>105 09 54.0 | 100.000<br>365     | 10.6<br>2081      | 74.5<br>Entercom Denver Ii License | 104.5R                  | 4.3M    |
| 300C1      | KBPI<br>Fort Collins    | LIC NCX<br>CO | 353.4<br>173.1    | 240.73<br>BLH20080613AAG  | 40 53 42.0<br>105 11 38.0 | 100.000<br>220     | 177.2<br>2170     | 75.6<br>Citicasters Licenses, Inc. | 4.5                     | 29.0    |
| 300C       | KBKL«<br>Grand Junction | LIC NCX<br>CO | 277.3<br>94.8     | 338.87<br>BLH20140313AAQ  | 39 03 56.0<br>108 44 52.0 | 100.000<br>453     | 203.8<br>2245     | 95.5<br>Townsquare Media Grand Jun | 280.5R                  | 58.4M   |
| 297C1      | KRKV«<br>Las Animas     | LIC _CX<br>CO | 125.3<br>306.2    | 153.47<br>BMLE20081201ATJ | 37 56 23.0<br>103 26 08.0 | 80.000<br>108      | 6.6<br>1397       | 55.5<br>Alleycat Communications    | 93.5R                   | 60.0M   |

Terrain database is USGS 03 SEC , R= 73.215 qualifying spacings or FCC minimum spacings in KM, M= Margin in KM  
 Contour distances are on direct line to and from reference station. Reference zone= - Zone 2, Co to 3rd adjacent  
 All separation margins (if shown) include rounding.  
 Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, \_= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)  
 "\*"affixed to 'IN' or 'OUT' values = site inside restricted contour.  
 < = Station meets FCC minimum distance spacing for its class.  
 < = Contour overlap

# 73.215 Contour Map

KDZA to KBPI (Was KPAW) Test 13-Dec-2017  
Capstar Tx, Llc

FMCommander Single Allocation Study - 12-19-2017 - USGS 03 SEC  
KDZA-FM's Overlaps (In= 0.04 km, Out= 25.82 km)

KDZA-FM CH 300 C0 73.215 Z  
Lat= 38 44 41.0, Lng= 104 51 46.0  
32.0 kW 672.5 m HAAT, 2928 m COR  
Prot.= 60 dBu, Intef.= 40 dBu

KBPI-A CH 300 C1 73.215 N BPH20171103AAI  
Lat= 40 53 41.7, Lng= 105 11 49.4  
100.0 kW 266 m HAAT, 2221 m COR  
Prot.= 60 dBu, Intef.= 40 dBu

