

## KSAJ-FM Section 73.315 Supplemental Showing Longley-Rice City Grade Coverage of Burlingame, KS

This Supplemental Showing is based upon the standards established in the FCC DA-10-1760, The Skytower Communications decision. A supplemental showing using the proposed facility's Longley-Rice coverage is used to show city coverage of Burlingame, KS. There are no major terrain obstructions between the transmit antenna and Burlingame. However, in an abundance of caution, an additional showing included in this report assumes 3 dB of Urban Clutter. All maps were created using V-Soft Probe Professional Version 4.74a using NED 3 second terrain data. The specific Longley-Rice software settings are listed on each of the coverage maps.

Exhibit A is a map that demonstrates that 100% of Burlingame is contained in the F(50,50) 60 dBu contour.

Exhibit B is a table showing the distances to the F(50,50) 70 dBu contour and the Longley-Rice Mean Occurrence 70 dBu contour for the 5 radials (288 to 292 degrees azimuth) that cross over Burlingame. The minimum percent increase in contour distance of the Longley-Rice contour 70 dBu over the F(50,50) 70 dBu contour is 39.9%, well above the threshold of 10%.

Exhibit C is a map demonstrating that the calculated Longley-Rice contour extends well beyond the 10% threshold for a supplemental showing. The supplemental showing clearly establishes that the Longley-Rice signal along the radials that cross the corporate boundaries of Burlingame are more than 10% greater than the F(50,50) 70 dBu contour.

Exhibit D is a Longley-Rice signal shading map showing the 70 dBu signal coverage of Burlingame. 917 of the 934 people in Burlingame (98.2%) would receive a Longley-Rice signal of 70 dBu or greater.

Exhibit E is a Longley-Rice signal shading map showing the 73 dBu signal coverage of Burlingame. This map assumes 3 dBu of Urban Clutter. 806 of the 934 people in Burlingame (86.3%) would receive a Longley-Rice signal of 73 dBu or greater.

Therefore, it is believed that the proposed application is in compliance with the Section 73.315 community coverage rules.

## EXHIBIT A

KSAJ-FM (Proposed) - Channel 253C2 - Burlingame, KS  
Supplemental Showing - Section 73.315  
FCC F(50,50) 60 dBu Contour

### KSAJ-FM (Proposed)

Class: C2  
Latitude: 39-03-50 N  
Longitude: 095-45-49 W  
ERP: 17.50 kW  
HAAT: 256.0 m  
Channel: 253  
Frequency: 98.5 MHz  
AMSL Height: 558.0 m  
Elevation: 329.0 m  
Horiz. Pattern: Omni  
Vert. Pattern: No



**KSAJ-FM (Proposed)**

Shawnee

Wabaunsee

Douglas

Burlingame, KS



FCC F(50,50)  
60 dBu Contour

Osage

Scale 1:353,564

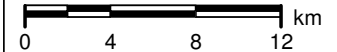


EXHIBIT B

KSAJ-FM (Proposed) - Contour Distance Comparison

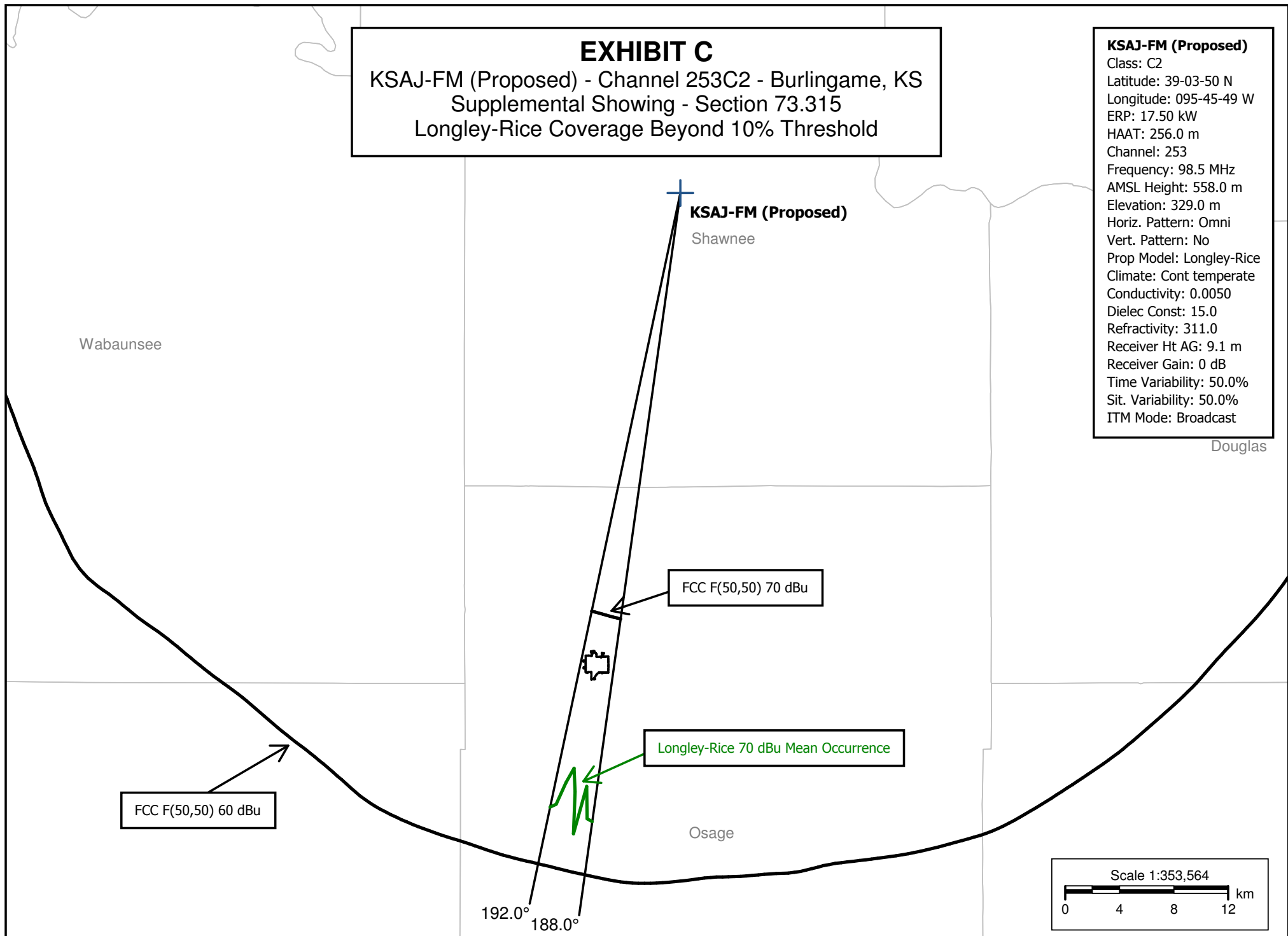
70 dBu F(50,50) Contour			70 dBu Longley-Rice Mean Occurrence		
Azimuth (deg)	Distance (km)	HAAT (m)	Distance (km)	HAAT (m)	% Increase
188	31.62	234.3	46.65	233.7	47.5%
189	31.56	233.5	44.15	231.8	39.9%
190	31.5	232.7	44.7	231.2	41.9%
191	31.45	231.9	44.15	228.4	40.4%
192	31.42	231.5	46.15	227.1	46.9%

## EXHIBIT C

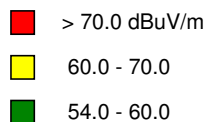
KSAJ-FM (Proposed) - Channel 253C2 - Burlingame, KS  
Supplemental Showing - Section 73.315  
Longley-Rice Coverage Beyond 10% Threshold

### KSAJ-FM (Proposed)

Class: C2  
Latitude: 39-03-50 N  
Longitude: 095-45-49 W  
ERP: 17.50 kW  
HAAT: 256.0 m  
Channel: 253  
Frequency: 98.5 MHz  
AMSL Height: 558.0 m  
Elevation: 329.0 m  
Horiz. Pattern: Omni  
Vert. Pattern: No  
Prop Model: Longley-Rice  
Climate: Cont temperate  
Conductivity: 0.0050  
Dielec Const: 15.0  
Refractivity: 311.0  
Receiver Ht AG: 9.1 m  
Receiver Gain: 0 dB  
Time Variability: 50.0%  
Sit. Variability: 50.0%  
ITM Mode: Broadcast



Longley-Rice Signal Strength



## EXHIBIT D

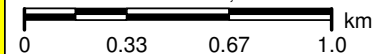
KSAJ-FM (Proposed) - Channel 253C2 - Burlingame, KS  
Supplemental Showing - Section 73.315  
Longley-Rice 70 dBu Signal Strength  
(98.2% of the Burlingame population receive a 70 dBu or greater Longley-Rice signal)

### KSAJ-FM (Proposed)

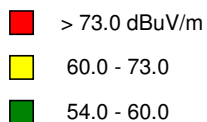
Class: C2  
Latitude: 39-03-50 N  
Longitude: 095-45-49 W  
ERP: 17.50 kW  
HAAT: 256.0 m  
Channel: 253  
Frequency: 98.5 MHz  
AMSL Height: 558.0 m  
Elevation: 329.0 m  
Horiz. Pattern: Omni  
Vert. Pattern: No  
Prop Model: Longley-Rice  
Climate: Cont temperate  
Conductivity: 0.0050  
Dielec Const: 15.0  
Refractivity: 311.0  
Receiver Ht AG: 9.1 m  
Receiver Gain: 0 dB  
Time Variability: 50.0%  
Sit. Variability: 50.0%  
ITM Mode: Broadcast  
Terrain: NED 3 Second US Terrain  
Cell Size: 0.1  
Profile Increment: 0.1

Burlingame

Scale 1:24,566



Longley-Rice Signal Strength



## EXHIBIT E

KSAJ-FM (Proposed) - Channel 253C2 - Burlingame, KS  
Supplemental Showing - Section 73.315  
Longley-Rice 73 dBu Signal Strength  
(70 dBu with 3 dB Urban Clutter Loss)  
(86.3% of the Burlingame population receive a 73 dBu or  
greater Longley-Rice signal)

### KSAJ-FM (Proposed)

Class: C2  
Latitude: 39-03-50 N  
Longitude: 095-45-49 W  
ERP: 17.50 kW  
HAAT: 256.0 m  
Channel: 253  
Frequency: 98.5 MHz  
AMSL Height: 558.0 m  
Elevation: 329.0 m  
Horiz. Pattern: Omni  
Vert. Pattern: No  
Prop Model: Longley-Rice  
Climate: Cont temperate  
Conductivity: 0.0050  
Dielec Const: 15.0  
Refractivity: 311.0  
Receiver Ht AG: 9.1 m  
Receiver Gain: 0 dB  
Time Variability: 50.0%  
Sit. Variability: 50.0%  
ITM Mode: Broadcast  
Terrain: NED 3 Second US Terrain  
Cell Size: 0.1  
Profile Increment: 0.1

Burlingame

Scale 1:24,566

