

APPLICATION FOR STATION LICENSE
CUMULUS LICENING LLC
WKFR-FM AUXILIARY FM ANTENNA
WKFR-FM RADIO STATION
CH 277B - 103.3 MHZ - 3.4 KW
BATTLE CREEK, MICHIGAN
August 2011

EXHIBIT A

WKFR-FM Auxiliary Transmission System Calculations

Effective Radiated Power:	3.40 kilowatts (Horizontal/Vertical)
Antenna:	Dielectric DCRM-1E 1 bay full wavelength spaced
Horizontal gain	0.46
Transmission Line: (318 feet)	Andrew Corp HJ7-50A 85.7% Efficiency
Transmission Line: (28.0 feet)	Andrew Corp - 1 5/8" rigid 98.88% Efficiency
Coaxial switch:	Four port switch 0.1 dB insertion loss 97.75% Efficiency
Antenna combiner :	Insertion loss 0.08 dB 98.175% Efficiency
Required Transmitter Power Output To Reach Effective Radiated Power:	9.096 kilowatts

Facilities Authorized:	Channel 277B - 103.3 MHz
Effective Radiated Power:	3.4 kilowatts (H/V)
Geographic Coordinates:	North Latitude 42° 21' 20" West Longitude 85° 20' 28"
Antenna Center of Radiation:	Above Ground 95.0 meters Above MSL 378.0 meters Above HAAT 108.0 meters
Antenna Structure Registration #:	1002564