

LICENSE APPLICATION TO RE-LICENSE FORMER MAIN AS AN AUXILIARY
CENTRAL FLORIDA EDUCATIONAL FOUNDATION, INC.
RADIO STATION WPOZ
CH 202C1 - 88.3 MHZ – 13.0 KW
UNION PARK, FLORIDA
June 2015

Exhibit 7 - Revised WPOZ Transmission System Calculations

The WPOZ auxiliary transmitter was moved to an adjoining building for fire protection which added an additional 95' of 3 inch rigid line, a coaxial patch bay, two (2) motorized coaxial switches with associated elbows. This additional loss is calculated in detail on the next page.

Effective Radiated Power: Horizontal & Vertical	13.00 kilowatts (in the tilted beam) 12.67 kilowatts (at the radio horizon)
Antenna:	Electronics Research, Inc., LPX-5C (Not a LPX-“SE” as listed on the previous FM-302.) Five bay full wavelength spaced antenna
Horizontal gain:	2.639
Transmission Line:	Dielectric / RCA 3-inch air dielectric rigid line and components. (See next page.) 66.56 % efficiency
Required Transmitter Power Output To Reach Effective Radiated Power:	7.4 kilowatts

Facilities Authorized:	Channel 202C1 – 88.3 MHz
Effective Radiated Power:	13.00 kilowatts (H/V)
Geographic Coordinates:	North Latitude 28° 36' 07” West Longitude 81° 05' 37”
Antenna Center of Radiation	Above Ground 396.0 meters Above MSL 416.0 meters HAAT 406.0 meters
Antenna Structure Registration #:	1026744

Details of Transmission Line Calculations

Item	Quantity	Description	Value	Units	Extended
1	12	3" elbows	-0.001	dB per elbow	-0.012
2	1	7-way manual patch bay	-0.1	dB per unit	-0.1
3	3	3" Gas stops	-0.001	dB per stop	-0.003
4	2	motorized coaxial switches	-0.1	dB per switch	-0.2
5	1535	3 inch hardline	-0.093	dB/100ft @ 88 MHz	-1.42755
6	1	Dielectric 3" FM fine matcher	-0.025	dB per unit	-0.025
Total Loss				dB	-1.76755
Power Gain/Loss				multiplier	0.665649
Antenna Input Required (13,000 / 2.639)				kW	4.92611
Total System Losses				Percent	66.56486
Transmitter Power Output Required				kW	<u>7.400467</u>