

T Z SAWYER TECHNICAL CONSULTANTS

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WIDU BROADCASTING, INC.
W259CY CHANNEL 259D (99.7 MHZ)

FAYETTEVILLE, NC
FCC FACILITY ID: 201238

FCC LMS CP FILE: 0000176598

LICENSE TO COVER - ENGINEERING STATEMENT

All operating specifications and conditions set forth in the W259CY Construction Permit have been fully met and the facility is ready for licensing.

No changes or deviations from the operating parameters authorized in the underlying construction permit have occurred.

Automatic Program Test Authority:

The facility is operating under the terms of the construction permit, which authorized "Automatic program test authority" upon filing of this application for station license.

Special Operating Conditions:

WIDU BROADCASTING, INC., accepts and affirms that it is in compliance with the special operating conditions as listed on the construction permit.

Transmitter Power Output (TPO):

The transmitter power output has been calculated at 0.739 kilowatts to achieve the required effective radiated power (ERP) of 0.250-kilowatts (H & V) as authorized. A TPO worksheet of the calculations is attached.

AM Station WFNC Fayetteville, NC FacID # 8583

The construction permit contained the FCC's standard special operating condition concerning this near-by (same geographical location +/- 1-second), adjacent AM facility.

No changes have occurred to the operating parameters of WFNC as a result of the installation of the FM translator antenna and transmission line on the adjacent tower.

The supporting structure on which the W259CY antenna is mounted is immediately adjacent to the WFNC AM radiator (as shown on the photo below). The tower is a grounded tower that has been detuned at the WFNC's operating frequency.



No changes were noted prior or after construction of W259CY, as reported by and further confirmed by WFNC's Chief Engineer, Jerry Reeves of Cumulus Media (Cumulus Licensing, LLC) in an email to this office.

Mr. Reeves was on-site during the installation of the antenna system on the adjacent tower.

Mr. Reeves may be reached at (910) 864-5222 ext 252, should there be any further questions.

Respectfully submitted,

March 17, 2022

Timothy Z. Sawyer, Consulting Engineer
Writers Direct Number: 703-848-2130
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STATION	W259CY	FM TRANSLATOR
LOCATION	FAYETTEVILLE, NC	
CHANNEL	FM TRANSLATOR	259

CALCULATED FOR
ERP OF 250 WATTS (0.250 KW) H & V

W259CY
FAYETTEVILLE, NC
FM TRANSLATOR

COMPUTED LINE LOSSES - BASED ON MANUFACTURES TABLES AT OPERATING FREQUENCY

DESCRIPTION AND LENGTH NEAREST FOOT	SIZE/TYPE	LENGTH	EXTRA LOSS (dB) (IF ANY)	SECTION LOSS (dB)	TOTAL (dB)
JUMPER ANT	TRANSMISSION LINE		0	0.000	0.000
VERTICAL RUN	TRANSMISSION LINE	7/8" FOAM FEET 450.00	0	1.544	1.544
BLD TO TOWER	TRANSMISSION LINE	7/8" FOAM FEET 30.00	0	0.103	0.103
JUMPER TRANS	TRANSMISSION LINE		0	0.000	0.000
MISC ANT/LINE/TERMINATION CONNECTOR LOSSES	QYN	2.00	0	0.032	0.032

FM	259	CH
FREQ:	99.7	MHz
FREQUENCY SENSITIVE COMPONENTS		
	DB PER 100 FT	SYSTEM JUMPER AT ANTENNA
0.3430	DB PER 100 FT	VERTICAL RUN ON TOWER
0.3430	DB PER 100 FT	HORIZONTAL RUN TO TX BLD
	DB PER 100 FT	SYSTEM JUMPER AT TRANSMITTER
0.0158	DB PER PAIR	TERMINATING CONNECTOR LOSSES

Insertion Loss = 0.05 X sqrt (freq GHz)

TOTAL FEET	480.00	COMPUTED SYSTEM LOSSES
		SUBTOTAL
		1.678
		dB Line Loss (with jumpers, line, and connector losses) from above
		0.000
		dB additional losses (Bandpass filter Telewave TBPC 1008-1)
		0.000
		dB additional losses
		TOTAL
		1.678
		Total System Loss in dB

67.95% Transmission System Efficiency Factor = Eff (%)

COMPUTED TPO NEAREST WATT
739

0.250	kW	-6.021	dBk	STATION MAXIMUM ERP
0.498	X (Gain)	-3.028	dBd	ANTENNA GAIN PER ANT SPEC SHEET
0.502	kW	-2.993	dBk	ANTENNA INPUT
0.237	kW	1.678	dB	SYSTEM TOTAL LOSSES
0.739	kW	-1.315	dBk	TRANSMITTER POWER

ANTENNA SPECIFIED	
MAKE	NIC
MODEL	BK-77
BAYS	1
SPACING	1.00
MODE	DA
POLARIZATION	H & V
ANT GAIN	0.498

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105%	0.776	TPO HIGH LIMIT
100%	0.739	NOMINAL
90%	0.665	TPO LOW LIMIT

Math Proof Check					
TPO	X	EFF	X	ANT G	= ERP
0.739		67.95%		0.498	= 0.250