STATION	W289BL	**FMX**
LOCATION	ROCKY MOUNT, NC	
CHANNEL	FM TRANSLATOR	289

CALCULATED FOR
ERP OF 0.25 KILOWATTS H & V

COMPUTED LINE LOSSES - BASED ON MANUFACTURES TABLES AT OPERATING FREQUENCY

					EXTRA LOSS (dB) (IF ANY)	SECTION LOSS (dB)	TOTAL (dB)		FM	289	CH
									FREQ:	105.7	MHz
DESCRIPTION AND LENGTH NEAREST FOOT		SIZE/TYPE		LENGTH							*FREQUENCY SENSITIVE COMPONENTS*
JUMPER ANT	TRANSMISSION LINE		FEET		0	0.000	0.000			DB PER 100 FT	SYSTEM JUMPER AT ANTENNA
VERTICAL RUN	TRANSMISSION LINE	1/2" FOAM	FEET	72.00	0	0.490	0.490		0.6800	DB PER 100 FT	VERTICAL RUN ON TOWER
BLD TO TOWER	TRANSMISSION LINE	1/2" FOAM	FEET	28.00	0	0.190	0.190		0.6800	DB PER 100 FT	HORIZONTAL RUN TO TX BLD
JUMPER TRANS	TRANSMISSION LINE				0	0.000	0.000			DB PER 100 FT	SYSTEM JUMPER AT TRANSMITTER
MISC ANT/LINE/TERMINATION CONNECTOR LOSSES			QYN	2.00	0	0.033	0.033		0.0163	DB PER PAIR	TERMINATING CONNECTOR LOSSES

Insertion Loss = 0.05 X sqrt (freq GHz)

TOTAL FEET (MIXED)	100.00

COMPUTED SYSTEM LOSSES	
SUBTOTAL	0.713 dB Line Loss (with jumpers, line, and connector losses) from above
CLIENT PROVIDED LOSSES (IF ANY)	0.000 dB additional losses (Bandpass filter, if used example Telewave TBPC 1008-2)
	0.000 dB additional losses (Kintronic AM isolation coil}
TOTAL	0.713 Total System Loss in dB

84.87%	Transmission System Efficiency Factor = Eff (%)

COMPUTED TPO NEAREST WATT
645

0.250	kW	-6.021	dBk	STATION MAXIMUM ERP
0.457	X (Gain)	-3.401	dBd	ANTENNA GAIN PER ANT SPEC SHEET
0.547	kW	-2.620	dBk	ANTENNA INPUT
0.098	KW	0.713	dB	SYSTEM TOTAL LOSSES
0.645	kW	-1.907	dBk	TRANSMITTER POWER

105%	0.677	TPO HIGH LIMIT
100%	0.645	NOMINAL
90%	0.581	TPO LOW LIMIT

	ANTENNA SPECIFIED
MAKE	BEXT
MODEL	TFC2K
BAYS	1
SPACING	1.00
MODE	OMNI
CIRCULAR	H & V
ANT GAIN	0.457

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2022

Math Proof Check					
TPO	X	EFF	X	ANT G	=	ERP
0.645		84.87%		0.457		0.250