

STATION	W214CF	FM TRANSLATOR
LOCATION	MANSFIELD, PA	
CHANNEL	FMX NCE	

CALCULATED FOR
ERP OF 0.010 KILOWATTS H & V (10 WATTS)

W214CF
MANSFIELD, PA
FMX NCE

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	1/2" SUPERFLEX FOAM FEET	0	0.000	0.000
VERTICAL RUN	TRANSMISSION LINE	1/2" FOAM FEET 79.00	0	0.525	0.525
BLD TO TOWER	TRANSMISSION LINE	1/2" FOAM FEET 13.00	0	0.086	0.086
JUMPER TRANS	TRANSMISSION LINE	1/2" SUPERFLEX FOAM	0	0.000	0.000
MISC ANT/LINE/TERMINATION CONNECTOR LOSSES		QYN 2.00	0	0.030	0.030

FREQ:	FM	214	CH
		90.7	MHz
FREQUENCY SENSITIVE COMPONENTS			
0.9860	DB PER 100 FT	SYSTEM JUMPER AT ANTENNA	
0.6650	DB PER 100 FT	VERTICAL RUN ON TOWER	
0.6650	DB PER 100 FT	HORIZONTAL RUN TO TX BLD	
0.9860	DB PER 100 FT	SYSTEM JUMPER AT TRANSMITTER	
0.0151	DB PER PAIR	TERMINATING CONNECTOR LOSSES <i>Insertion Loss = 0.05 X sqrt (freq GHz)</i>	

TOTAL FEET (MIXED) **92.00**

COMPUTED SYSTEM LOSSES
SUBTOTAL **0.642** 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, etc.)

TOTAL **0.642** Total System Loss in dB

86.26% Transmission System Efficiency Factor = Eff (%)

COMPUTED TPO NEAREST WATT
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0.010 kW	-20.000 dBk	STATION MAXIMUM ERP
0.500 X (Gain)	-3.010 dBd	ANTENNA GAIN PER ANT SPEC SHEET
0.020 kW	-16.990 dBk	ANTENNA INPUT
0.003 kW	0.642 dB	SYSTEM TOTAL LOSSES
0.023 kW	-16.348 dBk	TRANSMITTER POWER

ANTENNA SPECIFIED	
MAKE	SWR
MODEL	FM1-1
BAYS	1
SPACING	1.00
MODE	OMNI
CIRCULAR	H & V
ANT GAIN	0.500

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105%	0.024	TPO HIGH LIMIT
100%	0.023	NOMINAL
90%	0.021	TPO LOW LIMIT

Math Proof Check

TPO	X	EFF	X	ANT G	=	ERP
0.023		86.26%		0.500		0.010