Mars Hill NETWORK

We're seriously Christian and we're
"Ministering Life"
"The heavens declare the glory of God, and the firmament sheweth his handiwork. Day unto day uttereth speech, and night unto night sheweth knowledge."
Psalm 19:1-2

Monday, September 30, 2013

WMHU ERP & TPO Calculations

ERP	380 Watts	55.8 dBm
TPO	236 Watts	53.73 dBm
Input at Antenna	204 Watts	53 dBm

Power gain / loss	**dB gain**
Antenna	2.71
main cable loss	-0.45
Jumper	-0.19
Adapters	-0.06
System Gain	2.07 dB

Using ERP of 55.8 dBm less the System gain 2.07 dBm the TPO result is 53.73 dBm or 236 Watts
To convert from dBm to Watts using P(W) = 1W · 10(P(dBm) / 10) / 1000 = 10((P(dBm) - 30) / 10)

Cable loss data from Manufacturer Specifications.

Cablewave 1 - 5/8" Coax Air Dielectric cable		200	ft
	loss per 100 ft	0.195	dB
	Total Loss	0.39 dB	
Jumper	(Belden 9913 / RG8) cable	10	ft
	loss per 100 ft	1.9	dB
	Total Loss	0.19	dB

Shively	
3.25:" Hardline to 1 5/8" Coax Adapter	0.03 dB loss
1 5/8" to "N" Adapter	0.03
Total Adapter loss	0.06

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WMHR
102.9 FM
Syracuse

WMHI
94.7 FM
Cape Vincent
Watertown
Kingston, Ontario

WMHN
89.3 FM
Webster/Rochester

WMHQ
90.1 FM
Malone/Massena
Cornwall, Ontario

WMHU
91.1 FM
Cold Brook/Utica

WMHY
88.7 FM
Richfield Springs