ERP/TPo/Coax Calculator

Call sign:	K293CU
FIN:	
City of License:	
Date:	9/7/2021
Your Name:	James Moore

Solve for	TPo	
Operating Frequency	106.5	MHz
Coax Type	Eupen 7/8" foam	
Model	EC5-50	
kW Rating	8.1	(at selected freq)
dB loss per 100'	0.3664	(at selected freq)
Efficiency per 100'	0.9191	(at selected freq)

Tpo	1.000	kW
Coax Length	180.0	Feet
Filter(s)	0.870	
Other Efficiency factors	0.980	(jumpers, etc)
Antenna Gain	0.460	(efficiency)
ERP	0.099	kW
Power at antenna input	0.215	kW
Overall coax efficiency	0.859	

Result: TPo = 0.294 kW

Est TPo for -20 dBc HD	0.323 kW
Est TPo for -14 dBc HD	0.326 kW
Est TPo for -10 dBc HD	0.4 kW

Overall Transmitter Efficiency	55.0%	
Power voltage	110	VAC
Power factor	0.9	(typ TX is ≈ 0.9)
Phases	1	
Transmitter Power Draw	0.53	kW
Transmitter Power Draw	5.40	Amps
Transmitter Power Draw	0.59	KVA
Transmitter Heat Output	820	BTU
Transmitter Heat Output	0.07	AC Tons

NOTES:

TPo Percentages

90%	0.264 kW	**101%**	0.297 kW
92%	0.270 kW	**102%**	0.300 kW
94%	0.276 kW	**103%**	0.303 kW
96%	0.282 kW	**104%**	0.306 kW
98%	0.288 kW	**105%**	0.309 kW

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