

K256DK TPO CALCULATION

This detailed calculation is provided in support of the license to cover application for K256DK.

1. Antenna gain for Scala CL-FM H log periodic antenna = 5.01 (Inverse log of 7 dBd/10)
2. Line efficiency = 0.843 (112.8 feet of 1/2 inch Andrew LDF4-50 foam heliax)
3. 5 Type N connectors efficiency = 0.982 (0.0157dB per connector using Amphenol formula)¹

TPO = ERP/antenna gain/line efficiency/connector efficiency

0.060 kW = 0.250 kW/5.01/.843/.982

Solve for	TPo	
Operating Frequency	99.1	MHz
Coax Type	Andrew 1/2" foam	
Model	LDF4-50A	
kW Rating	3.6	(at selected freq)
dB loss per 100'	0.6575	(at selected freq)
Efficiency per 100'	0.8595	(at selected freq)
Tpo	1.000	kW
Coax Length	112.8	Feet
Filter(s)	1.000	
Other Efficiency factors	0.982	(jumpers, etc)
Antenna Gain	5.010	(efficiency)
ERP	0.250	kW
Power at antenna input	0.050	kW
Overall coax efficiency	0.843	
Result: TPO =	0.060 kW	



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¹ $0.05 \sqrt{fgHz}$ dB