

Circularly Polarized FM Antenna and Transmission Line System

Single Channel FM Power Analysis-Circular Polarization

Customer:	K235CD
Location:	
Frequency:	94.9 MHz FM
Antenna Type:	CPF-1
Antenna Polarization:	Scala FMV-MP-4
Antenna Number of Bays:	4 Bays
Half or Full Wavelength Spacing:	Full wavelength bay spacing
Antenna Gain (Numeric):	6 dB
Electrical Beam Tilt:	0.00 degrees
First Null Fill:	0%
Second Null Fill:	0%
Power Handling:	0.50 kW Average Power
Input Type:	N
Transmission Line Type - Vertical Run (Enter Type No.):	1 Andrew HJ5-50, 7/8" A
Vertical Run Length:	255 feet
Vertical Run Attenuation:	0.3600 dB/100-feet
Vertical Run Average Power Handling:	7.74 kW
Transmission Line Type - Horizontal Run (Enter Type No.):	1 Andrew HJ5-50, 7/8" A
Horizontal Run Length:	50 feet
Horizontal Run Attenuation:	0.3600 dB/100-feet
Vertical Run Average Power Handling:	7.74 kW
Isolation Transformer Attenuation:	0.2300 dB (1/2 inch j2)
Filter Attenuation:	0.7000 dB Shieley 3 po
Circulator Attenuation:	0.0000 dB
Effective Radiated Power Desired:	0.25000 kW -6.0206

Power Analysis

Circular Polarization

Antenna Power Gain:	6.0000	7.7815 dBd	
Antenna Input Power:	0.0417 kW	-13.8021 dBk	
Transmission Line Losses:		1.0980 dB	
Transmission System Loss:	0.0248 kW	2.0280 dB	
Line Efficiency:	62.69%		
Transmitter Power:	0.0665 kW	-11.7741 dBk	kW Average