

Circularly Polarized FM Antenna and Transmission Line System

Single Channel FM Power Analysis-Circular Polarization

Customer:	K272FE		
Location:			
Frequency:	102.3	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:	DIN		
Transmission Line Type - Vertical Run (Enter Type No.):	1	Andrew HJ5-50, 7/8" A	
Vertical Run Length:	255	feet	
Vertical Run Attenuation:	0.3740	dB/100-feet	
Vertical Run Average Power Handling:	7.44	kW	
Transmission Line Type - Horizontal Run (Enter Type No.):	1	Andrew HJ5-50, 7/8" A	
Horizontal Run Length:	50	feet	
Horizontal Run Attenuation:	0.3740	dB/100-feet	
Vertical Run Average Power Handling:	7.44	kW	
Isolation Transformer Attenuation:	0.2300	dB	(1/2 inch j2)
Filter Attenuation:	0.7000	dB	(Shively 3 p
Circulator Attenuation:	0.0000	dB	
Effective Radiated Power Desired:	0.09900	kW	-10.0436

Power Analysis

Circular Polarization

Antenna Power Gain:	6.0000	7.7815	dBd	
Antenna Input Power:	0.0165	kW	-17.8252	dBk
Transmission Line Losses:			1.1407	dB
Transmission System Loss:	0.0101	kW	2.0707	dB
Line Efficiency:	62.08%			
Transmitter Power:	0.0266	kW	-15.7545	dBk
				kW Average