

De La Hunt Communications Service
17487 Driftwood Lane
Park Rapids, MN 56470
Phone:: (703) 887-6000 Fax: (218)-732-3307
em: eddelahunt@unitelc.com

TPO CALCULATION FOR STATION KRSE(FM)
Yakima, WA

KRSE Authorized Effective Radiated Power: 100.00 kW 20.00 dBk

Antenna System: Jampro Antennas, Inc.

Model: JHPC-10

Bays: 10 bays

Max Power Gain: 5.50

Antenna Input Power: 18.20 kW

Transmission Line and Other Losses:

Manufacture: RFS Flexwell

Model No.: HCC 300-50J

Length: 245 Feet,

Diameter: 3-Inch HCC 300-50J

Efficiency: 92.69%

Transmitter Power Output (TPO):

$$\text{TPO} = \frac{\text{Effective Radiated Power}}{(\text{Ant Gain})(\text{T-line Eff})}$$

$$\text{TPO} = \frac{100 \text{ kilowatts}}{(5.5)(.9269)}$$

$$\text{TPO} = 19.62 \text{ kilowatts (unrounded)}$$

$$\text{TPO} = 19.5 \text{ kilowatts (FCC Section 73.212)}$$



JHPC

SIDEMOUNT FM ANTENNA

The JAMPRO JHPC antenna is the high power version of the PENETRATOR antenna, which has become an industry standard for quality and performance.

Rated at 50 kW maximum inputs, each bay consists of a PENETRATOR style radiating element with a 3-1/8" shunt feed line. Each JHPC is factory tuned to any frequency in the FM Band II (87.5 -108 MHz) range on a tower structure that best simulates the customer's actual tower. Multiple frequency design is also available. The true circular polarization of the JHPC antenna offers excellent performance for HD Radio, stereo and SCA operation. Typical VSWR is 1.2:1 \pm 200 kHz. (Optional 1.1:1).

Radomes

Deicers

FCC Directionalization

Reduced RF Arrays

Pattern Measurement Study

Custom Mounting Brackets Available

Electrical Beam Titl

Null Fill

Multi Frequencies



The JHPC antenna is constructed of the highest quality marine brass and copper. A hot dipped – galvanized steel mounting bracket for utmost grounding supports each bay. Standard round leg mounting brackets for uniform face towers are included with each antenna. Silver plated inner conductor connectors are used throughout for maximum contact life and minimum power loss. Each JHPC antenna is DC grounded at every bay for maximum lightning protection. This rugged mechanical construction and mounting ensure the long life and outstanding performance of each JHPC antenna system.



Number of Bays	Power Gain	dB Gain	FS @ 1 Mi.	Max Input Power kW	Weight (lbs)	Wind load (lbs)
1					35	41
Deicers	0.46	-3.37	93.2	10	44	50
Radomes					65	162
2					141	203
Deicers	1.00	0.00	136.7	20	159	227
Radomes					201	445
3					226	331
Deicers	1.50	1.76	168.4	25	253	379
Radomes					345	694
4					312	459
Deicers	2.10	3.22	199.2	30	348	532
Radomes					435	943
5					397	587
Deicers	2.70	4.31	225.2	35	442	683
Radomes					547	1192
6					483	714
Deicers	3.20	5.05	246.0	40	537	835
Radomes					663	1440
8					654	970
Deicers	4.30	6.34	285.2	40	726	1139
Radomes					894	1938
10					825	1226
Deicers	5.50	7.40	322.4	40	915	1444
Radomes					1125	2436
12					996	1481
Deicers	6.60	8.20	353.2	40	1104	1687
Radomes					1,1356	2933

Notes:

- Weights and wind loads shown include standard leg mounting brackets and feed lines
- Wind loads based on 50/33 PSF (98 MHz, midband)
- Feed points, when end fed is 3 ft below bottom bay; when center fed is 9'. 6" below center
- All inputs are EIA flange, female
- Power derating occurs above 2,000 feet elevation. Contact factory for details
- Power and dB gains are typical for horizontal and vertical components
- Special mounting brackets are available
- Other combinations of EIA inputs and power ratings available
- Free space azimuth circularity is ± 2.0 dB
- Polarization is right hand, clockwise circular
- Power gain is based on half wave dipole in free space
- Specifications based on one wave spaced bays, other spacing available

Non-ionizing Radiation:

Since many factors contribute to a station's compliance with the FCC exposure guidelines for radio frequency radiation, JAMPRO ANTENNAS, INC. cannot accept any responsibility in this matter. The station must examine and determine its status based on each individual situation.

*All specifications are subject to change without notice.

Transmission Line Efficiency -- Computed values are valid for the FM radio band only.
-- This function does not cover all cable types.

FM Channel number (200 to 300):

289

Select a cable type:

HCC 300-50



Length of cable, in meters:

75

meters

Find Line Efficiency

Result:

0.9269 <=> 92.69%

Clear Values