VHF Gap TV Transmitting Antenna

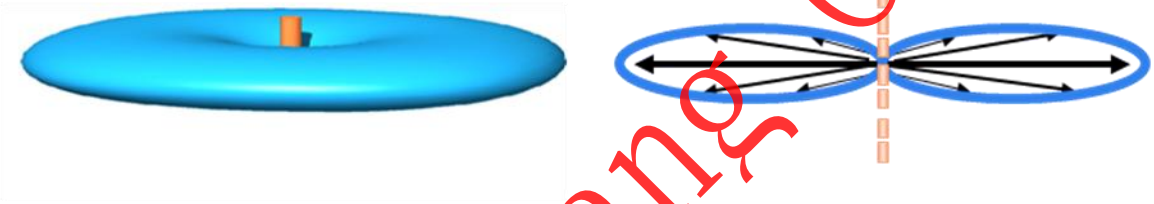
FYY-AFXV

Product Manual

1. Product Function

The VHF slot TV transmitting antenna (FYY-AFXV) is a product that emits electromagnetic signals in the UHF (frequency range: 167-223MHz or 6-12CH) band into space. It belongs to wireless digital TV signal and wireless analog TV transmission antenna. Designed using an infinitely large ideal metal surface with a simplified design method. The polarization mode of the antenna is horizontal polarization.

2. Product Principle Diagram



3. Structure Character

Low loss, high efficiency, high gain, small size, light weight, small wind bearing surface, excellent sealing performance

Easy to install and set up, can greatly reduce maintenance costs

Stainless steel frame, pure copper inner conductor, fiberglass outer cover.

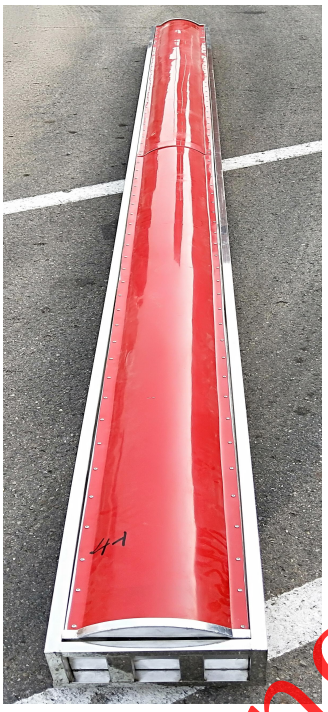
The millimeter wave slot transmitting antenna not only has the advantages of the millimeter wave slot transmitting antenna, but also solves the disadvantages of other types of transmitting antennas in the millimeter wave band, such as large volume, weight, loss, and low efficiency. Make it have the characteristics of low loss, high efficiency, high gain, small size, light weight, small wind bearing surface, and excellent sealing performance, making it easy to install and set up. At the same time, it can greatly reduce maintenance costs. Can become a replacement product

for other types of antennas.

The millimeter wave slot transmitting antenna is designed for very high frequency television broadcasting transmission. It consists of a gap radiation chamber installed inside a stainless steel frame. The stainless steel frame plays a role in installation and fixation to ensure the stability of the radiation chamber, while also participating in radiation and having lightning protection function. The cavity is made of aluminum alloy and consists of four radiating elements to form a rectangular aluminum resonant cavity. Antennas can be installed on the top or side of the tower. When installing on the side of the tower, the width of the tower or the diameter of the mast should be considered to obtain a good horizontal radiation pattern. However, in general, due to the longer wavelength of the very high frequency band, the influence of the mast diameter on it is relatively small. The antenna cavity has been designed with zero filling and beam tilt taken into account, with a tilt angle of 0.5 degrees. The antenna gain is 11dB, and the horizontal radiation is omnidirectional. To achieve greater gain, two or more antennas can be vertically stacked, and the transmission line length of the line converter and inter node coaxial feeder can be appropriately selected to better solve zero padding or beam tilt. The horizontal directional pattern of the millimeter wave slot transmitting antenna is basically circular, with a slight maximum point in the diameter direction passing through the antenna slot, and a minimum point in the direction roughly opposite to this diameter.

The millimeter wave slot antenna consists of an antenna cavity and a stainless steel frame. Due to the large size of the antenna cavity, it is prone to deformation. The stainless steel frame structure can ensure the strength and stability of the antenna radiation cavity. The antenna installation can directly fix the stainless steel frame to the side of

the iron tower, which is relatively easy to install without affecting the shape change of the antenna cavity.



2.3.1. Technical Parameters

No.	Content	Parameters
1	MODEL	FYY-AFXV
2	Output Power	Max 40kw
3	Bandwidth	25MHz
4	Horizontal field type non circularity	≤±3dB
5	VSWR	≤1.08
6	Gain	4-slot 9dBd, 9-slot 12dBd
7	Downward tilt of beam	4-slot 0.5° , 8-slot 1°
8	First zero point filling	＞10%
9	Input interface	Matching with the feed tube
10	Weight	40kg
11	Wind resistance	200km/h

13	Lightning protection method	DC Ground
14	Downward tilt method	Electrical

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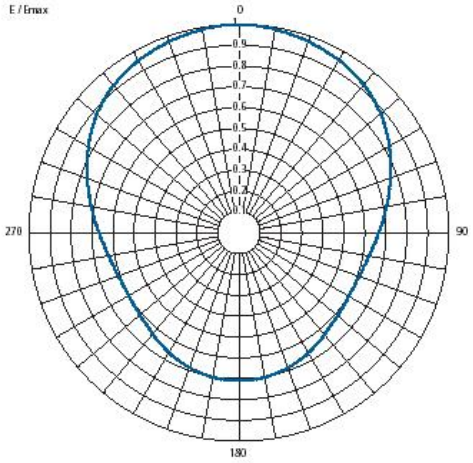
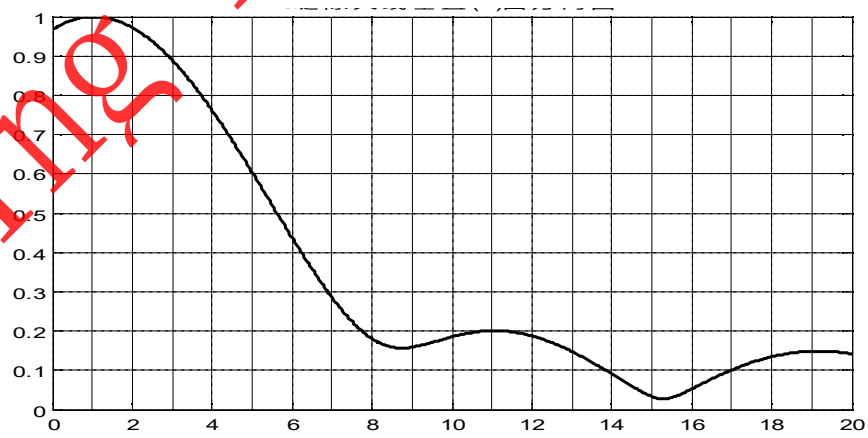
1	Model	FYY-AFXV
2	Power	Max 40kw
3	Bandwidth	25MHz
4	Horizontal field type non circularity	≤±3dB
5	VSWR	≤1.08
6	Gain	4 gap 9dBd, 8 gap 12dBd
7	Beam under the sky	4 gap 0.5° , 8 gap 1°
8	First zero point filling	＞10%
9	Interface	Matching with the feed tube
10	Weight	40kg
11	Wind resistance	200km/h
13	Lightning protection	DC Ground
14	Downward tilt	electrical

2.3.2. Directional Diagram





2.3.3. Structure and Size

CH	L（mm）	W（mm）	H（mm）	Weight（Kg）
6CH	7100	440	440	60
7CH	6800	420	420	58
8CH	6500	405	405	56
9CH	6250	390	390	54
10CH	6010	375	375	52
11CH	5800	360	360	50
12CH	5580	345	345	48