An Omni Directional V-Shaped Microstrip Antenna For Wireless Multimedia Sensor Network

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Abstract: This paper adds a new Omni Directional Microstrip filter-antenna. In antenna design, this microstrip Lines are used to feed the V-shaped coupling slots in the ground Metal level. V-shaped coupling slots provide radiation at the top patches can detect the radiation action of the antenna. Bilateral power divider connected to the microstrip line, also understand the filtering function. The antenna has bandwidth 3.5 to 3.8 GHz of 0.50 GHz. In the frequency band from 3.2 to 3.6 GHz, average gain in vertical direction Antenna plane exceeds 10 dBi. Verlog hardware description Language architecture model. It is automatic and automatic mode with complex functionality. This work discusses the functional authentication of the DSP board using VLSI and MatLab. We can reduce and change the number register and complex parallel input / output functions. It is a pipeline based model so it is easy to change the step and adapt to any mathematical operations. Architecture is examined in terms of current functions and work environment

Keywords: Microstrip antenna, Wireless Multimedia sensor network, Radiation action, Polarization, Verilog

1. INTRODUCTION

The purpose of the research is to address multimedia information that can be used to effectively identify images, videos and other coding and streaming in MSNs (multimedia sensor networks). Limited multimedia information processing power and power consumption are key in traditional WSNS, focusing primarily on the wireless transceiver and its distribution. They are displayed in an integrated form. In MSNs, wireless usage is power consumption. Introducing transceiver and data processing integrated distribution [1].

How effective is it to balance the power supply in the network without reducing the power consumption of a single node extending the life cycle of the entire network [1]. WMSN The use of these features has attracted a lot of attention from researchers. Therefore, with so many variables it is necessary to reduce it in order to understand the data in a meaningful way. Understand the number of variables using linear combinations of data. PCA is a technology that uses mathematical formulas to convert many interrelated variables into a small number of variables called principal elements [2].

As modern wireless communication technology has developed rapidly over the past few decades, overuse of limited spectrum resources and bands has led to a shortage and congestion of current spectrum. As a result, the interaction between the signals of adjacent or similar channels is greatly increased [3]. Therefore, to eliminate the interference of a useless or malicious signal in the communication system, it is necessary to add a filter that fits the antenna and filter the signal outside the operating frequency band with high selectivity [4].

However, over time, we have promoted many such colonial microstrip versions without ground planes and marketed them as high-performance omnidirectional antennas. What we are selling today uses a cylindrical multigrid polarity that encircles a series of colonies, converting the antenna into a circular polarizer [5].

Related work

Huang et al suggested DWT conversion. Five pipeline stages are used here, which are the basic tools of multiple delays. However, some piping steps can cause the base to expand over time, resulting in the formation of large lattices. The number of steps and the number of registers in the pipeline can be reduced by reconnecting in the middle of the road estimate of the result. The proposed lifting scheme can overcome the shortcomings of previous tasks and the memory size and logical size are unfortunately limited by the output [6].

Lijiang et al suggested a new geometric model to distinguish the spatial correlation features of different types of camera nodes in MSNS based on diversity. Sensing the distance and angle of the camera nodes [7]. Yuang et al. Image compression PCA based methods are studied in detail in the Image Compression field. Recently, scholars in the relevant field have introduced a new theory of compression sensing [8].

One scholar suggested a filter antenna design method in his article. In the reference literature, the 2×2 IFA series is indicated. It replaces the final resonance of the filter with the slot antenna to achieve the filtering function. In [9] [10], it is suggested that the coupling line be used as the Admission Inverter or Admissions Converter, respectively. These antennas not only act as radiators, but also as the final echo of the bandpass filter to achieve the filtering function.

In the literature [11], a filter-antenna with edge-coupled filter and printed monopole is studied. The curved design of the edge-coupled filter reduces the size of the structure. The document describes the UWB antenna. It uses a dual U-shaped groove design that can be used to adjust the length of the feeder to achieve high frequency matching and short feeder length.

Omni Directional Microstrip Antenna – Proposed Model

The internal conductor gradually feeds each radiator element to its ends. This allows for rapid changes in internal and external conductor widths over a half-wavelength period in the microstrip. Each change in width effectively replaces the microstrip internal and external conductors. This connection of the inner-outer conductor sets the potential difference between the adjacent radiator edges, which excites the radiators. Transposition provides the required 180 phase change at each radiator element coefficient at the operating frequency.
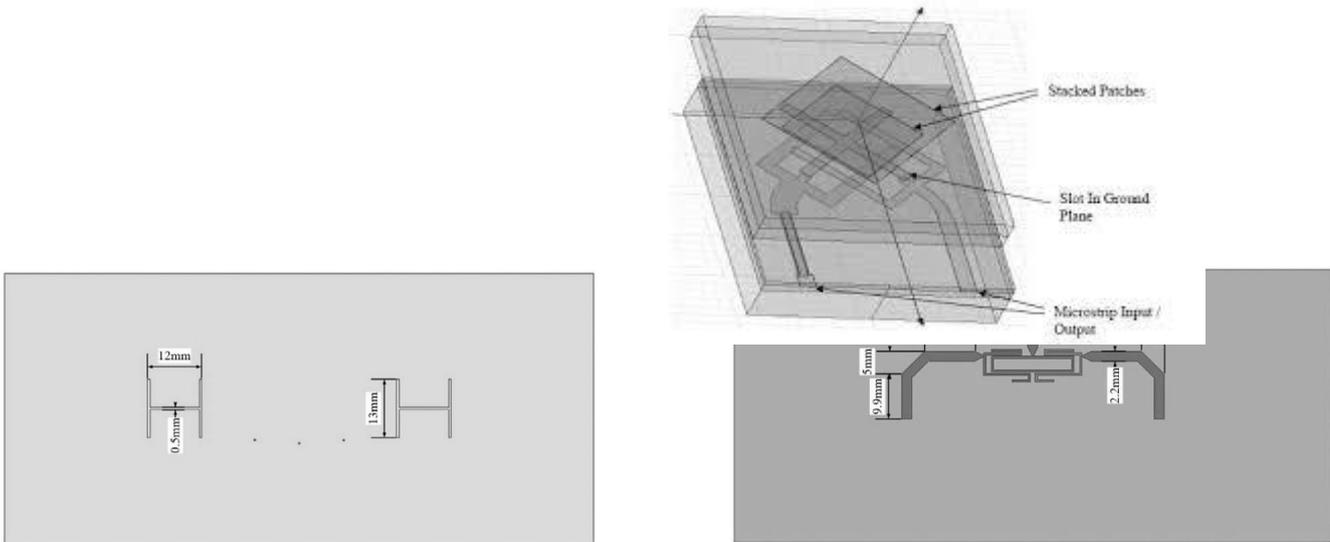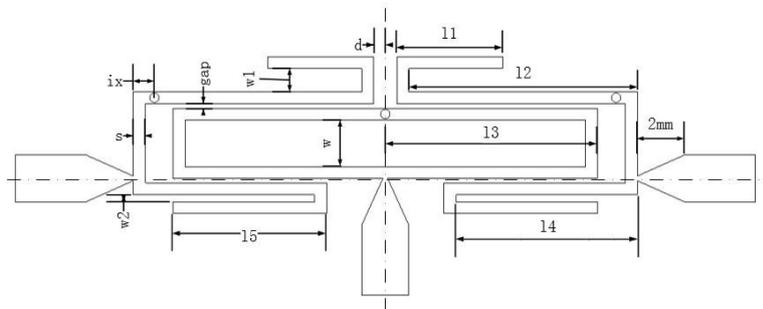
Figure 1: Omni Directional Microstrip Antenna Proposed system

Bottom dielectric V-Shap Mictrostrip data translationshown in Figure 2. The top layer of soil is at the top. The microstrip lines and divider are located at the base of the reference code. The metallization vias is located inside the reference code and connects the power divider to the ground head. The trapezoidal structure is connected to the microstrip line site with a power divider. Bottom width Microstrip width. The width of the upper edge of the microstrip line is the width of the contact with the power divider, 0.1 mm. .

Reduction in practice, Figure 1 this reduction established a planar range with a gain of 20 dB at 15 GHz. We designed it for the department of Information Communication for use in multimedia applications handler. This is a 10 linear e-plane suburban V-Plain range. Each subframe has a center-fed and a total of 20 transposed-microstrip outer outer conductors as radiator elements.
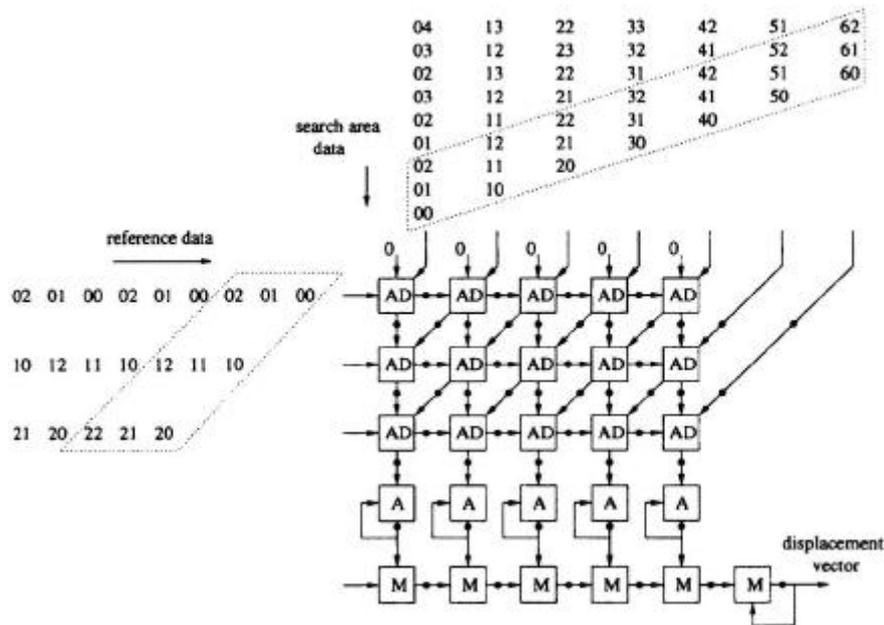
Figure 2:

The mid-horizontal excitation of the V-shaped exciter is 3.5 mm from the end of the microstrip line. This improves the shape of the paper slot, which effectively improves bandwidth, reduces reflection loss and improves the coupling efficiency of the antenna. . The H-slot coupled feed patch cells used in antennas have a wide bandwidth and small parasites. The radiation patch at the top of the antenna is fed through V-type slot in the middle ground plane. At the same time, due to the presence of intermediate planetary planes, the feed effect on the radiating element is effectively reduced. The antenna has band-pass filtering and can control the pass band range by tuning the feeder size and power divider respectively. Bilateral power divider to achieve filtration. Not only this, with the help of fire you can do welding

PCA is a statistical procedure for finding the characteristics of a distributed dataset based on a total of 25 variants. When the multivariate distribution data set enters the X-Y coordinate system in Figure 2, the PCA first detects the maximum variance of the original datasets. These data points are displayed on a new axis called the UV coordinate system. The direction of the U and V-axis are called the main factors. The linear array consists of unlimited elements, the number of which determines the bandwidth. The entire linear array can be fed centrally as a dipole with balanced excitation or eventually fed opposite the ground like a monopole.

2. SIMULATION RESULTS

Accept cluster head node activity only Send data from normal nodes to base station Location information to protect the cluster head node and power is not integrated into each packet. Finally, the compressed data is basically integrated into the base station.

X is the input image with M-rows and n-columns, represented by $X = (x1, x2, .., xm)$. P is the linear transformation matrix, so $P.X = (P1.X1, P2.X2, ..., Pm.Xm)$. Therefore, the coverage matrix,

$Cx = (1 / N-1) \sum_{} (I = 0, I = 0) ^ (n-1) / P (i, j) .X (i, j) / M)$

Large variant values are important because they match the interesting dynamics of smaller systems.

Different values represent the noise in these systems. Therefore, the consensus of the modified matrix Cx and y must meet the following requirements, i. Increase the signal by

increasing the diagonal entries, ii. Decrease the coefficient between variables by reducing off-diagonal entries. Further troubleshooting of the DUT indicates that these differences are due to the stress of the information being maintained due to the length of the controlled register at each stage of maintenance. Another project sine generator's IP center is located above the cosine gas. In this structure, the information point width is 8 bits, which is better than the target (step size) 0.01, and the yield width is 10 bits for better accuracy.

Table 2 Device utilization of proposed model

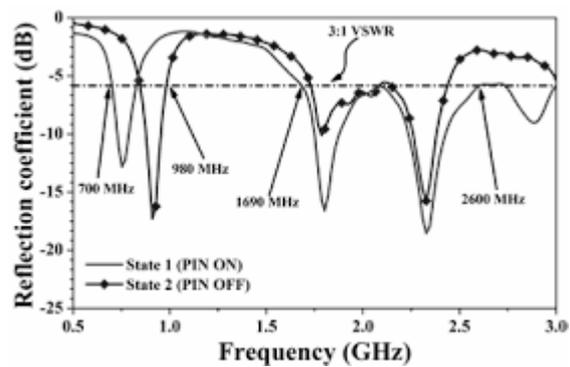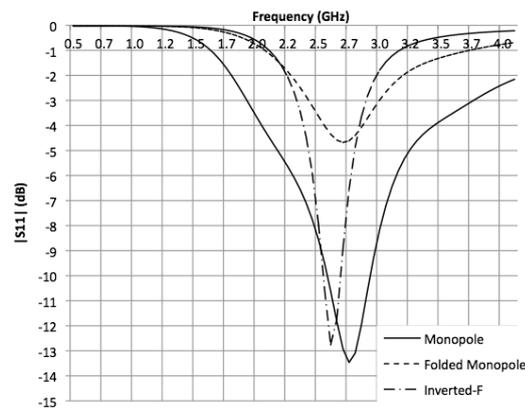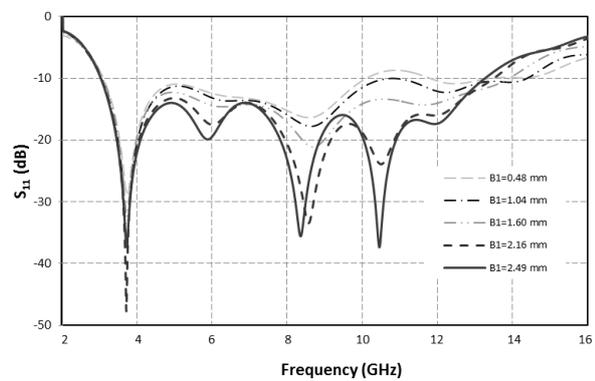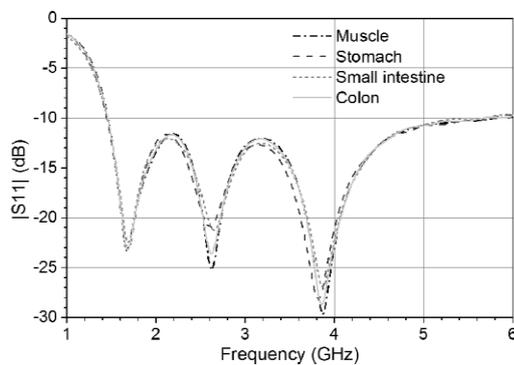| Logic Utilization	Used	Available
Numbers of representation	3256	1267
Numbers of Slices	1290	876
Number of I/O	10,270	11,456
Number of Vertical Plane	15	15
Number of Clock Cycle	3.5	3.5
Number of Iterations	10	20
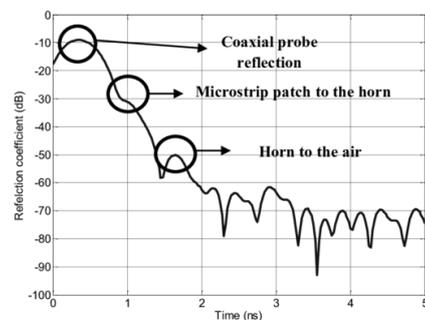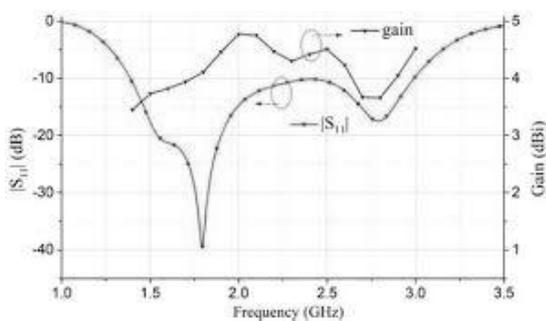
Figure 3: Matlab Simulation results of Multimedia wireless sensor data using our proposed model

This is confirmed for all binary hacking data points using a forced random test vector by executing the matlab calculation in a circle. The overall structure of the simulation model diagram shown in Figure 3. The dielectric surface is made of V-Shaped epoxy material with a parameter of Sr = 3.2 and a loss tangent of 0.05. Its size is 40mm × 80mm 0.5mm. The size of the two parasites in reference code is 20 mm 20 mm, both symmetrical to the equator of antenna polarization. The patch edge and surface edge leave a gap of 0.5 mm. Figure 3 showed the simulation result of the far-field radiation patterns of the proposed filter-antenna at 3.5GHz. Obviously, the maximum radiation direction is above the radiator.

3. CONCLUSION

This paper introduced the V-slot Omni directional coupled microstrip filter-antenna. During the design process, we use a bilateral power divider to achieve the filter performance of the antenna. Meanwhile, the V-slot coupling feed patch unit is used to achieve radiation performance. Through Matlab simulation and optimization, we can determine the most suitable antenna geometry. These antennas have the advantages of low cost, wide bandwidth, low reflection loss, high antenna coupling capacity, good antenna gain, easy integration with active circuits, small size, light weight and easy construction. Despite the many disadvantages of this filter antenna, it has excellent application value in modern wireless communication systems, and has various advantages. Microstrip version of previous colonial array antennas implemented using coaxial cable. The alternating connections (transfers) of the internal and external conductors of these previous series are characteristic of half-wavelength intervals in communication products corporation. The use of this method strengthens the validation of DSP based operations in a short period of time with high inclusion. Here, Matlab is used to generate some specific information improvement codes that are difficult to generate in Verlog. This is more than just completing Matlab's extended tests using a series of tests separated at different levels.

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