

(i)

Patent Claims



159159



G00002

We claim:

{01} Application of a Planar Ultra High Frequency Antenna, consisting of: [1] Receptor; [2] Printed Circuit Substrate; [3] Signal Combining Circuit. Whereby of [1] Receptor and [3] Signal Combining Circuit and [16] Antenna Output point are located on one surface of [2] Printed Circuit Substrate, [2] while Ground plane is located on the other surface of [2] Printed Circuit Substrate.

{02} Application of Planar Ultra High Frequency Antenna according to claim {01} characterized in that, [1] Receptor consist of symmetrical structures with variations, consisting of: Microstrip Elements Type [11]; Microstrip Elements Type [12]; Microstrip Elements Type [13]; Microstrip Elements Type [14]; Microstrip Elements Type [15] and Microstrip Elements Type [17].

{03} Application of Planar Ultra High Frequency Antenna according to claim {02} characterized in that, the Microstrip Elements Type [11] consist of two or more sets of homothetic structures as receiving elements.

{04} Application of Planar Ultra High Frequency Antenna according to claim {02} receiving elements are characterized in that, lower ends of Microstrip Elements Type [12] to be connected to Microstrip Elements Type [14] while the upper ends to be connected to the upper ends of Microstrip Elements Type [11].

{05} Application of Planar Ultra High Frequency Antenna according to claim {02} characterized in that, upper ends of Microstrip Elements Type [13] are located below upper ends of Microstrip Elements Type [12], and lower ends of Microstrip Elements Type [13] are not connected to Microstrip Elements Type [14].

{06} Application of Planar Ultra High Frequency Antenna according to claim {02} characterized in that, one end of Microstrip Elements Type [15] to be connected to [3] Signal Combining Circuit while the other end of Microstrip Elements Type [15] to be connected to Microstrip Elements Type [14] via Microstrip Elements Type [17], an that length of Microstrip Elements Type [15] set to cause a matching impedance equals to 75 ohms and entire planar structure may be enclosed within protective cover.



(ii)

Description

A Planar Ultra High Frequency Antenna

{001} This design relates to digital electronic products accessories applications, on signal reception digital communication particularly.

A Brief Background of Design

{002} Most antennas in market for similar applications are either in pole or *Yagi* forms, which will physically occupy larger three dimensional space and thus causing greater transportation as well as installation problems. In the deployment for mobile digital equipment, such limitations do not realistically satisfy practical needs.

{003} This design's objective is to utilize working principle of Microstrip in purpose of signal reception, to provide a slim planar antenna to get breakthrough in special and weight and structural savings, to replace *Yagi* and pole form antennas. When used in mobile signal reception for Digital Video Broadcast; Digital Audio Broadcast and Digital Multimedia communication domains, benefit from the advantages of better appearance; convenient usage; and easy installation.

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(iii)

A Summary of Design

{004} To facilitate our objective, this design is a Planar Ultra High Frequency Antenna consisting of: [1] Receptor; [2] Printed Circuit Substrate; [3] Signal Combining Circuit. Whereby of [1] Receptor and [3] Signal Combining Circuit and [16] Antenna Output point are located on one surface of [2] Printed Circuit Substrate, [2] while Ground plane is located on the other surface of [2] Printed Circuit Substrate. Such [1] [1] Receptor consist of homothetic structures with variations, consisting of: Microstrip Elements Type [11]; Microstrip Elements Type [12]; Microstrip Elements Type [13]; Microstrip Elements Type [14]; Microstrip Elements Type [15] and Microstrip Elements Type [17]. Such receiving elements are connected in that, lower ends of Microstrip Elements Type [12] to be connected to Microstrip Elements Type [14] while the upper ends to be connected to the upper ends of Microstrip Elements Type [11]. Such upper ends of Microstrip Elements Type [13] are located below upper ends of Microstrip Elements Type [12], and lower ends of Microstrip Elements Type [13] are not connected to Microstrip Elements Type [14]. Such one end of Microstrip Elements Type [15] to be connected to [3] Signal Combining Circuit while the other end of Microstrip Elements Type [15] to be connected to Microstrip Elements Type [14] via Microstrip Elements Type [17], an that length of Microstrip Elements Type [15] set to cause a matching impedance equals to 75 ohms and entire planar structure may be enclosed within protective cover.

{005} This design realized light and handy antenna for reception of signals by utilizing Microstrip circuits to implement all necessary signal reception components on a planar substrate. Antennas of this design are easy to install, easy to transport and have better appearance.



(iv)

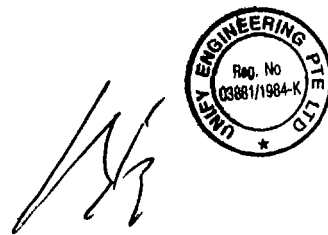
A Brief Description of Drawing

{006} Drawing #1 shows one embodiment of the design in frontal direction view.

{007} Drawing #2 shows one embodiment of the design in projection views.

{008} Demarcation numbers of various components are tagged within [] brackets throughout this document and listed as follows:

[1]	Receptor
[2]	Printed Circuit Substrate
[3]	Signal Combining Circuit
[11]	Microstrip Elements Type [11]
[12]	Microstrip Elements Type [12]
[13]	Microstrip Elements Type [13]
[14]	Microstrip Elements Type [14]
[15]	Microstrip Elements Type [15]
[16]	Antenna Output point
[17]	Microstrip Elements Type [17]
[18]	Ground plane under PCB substrate



(v)

Detailed Description of Design

{009} This design is a Planar Ultra High Frequency Antenna consisting of: [1] Receptor; [2] Printed Circuit Substrate; [3] Signal Combining Circuit. Whereby of [1] Receptor and [3] Signal Combining Circuit and [16] Antenna Output point are located on one surface of [2] Printed Circuit Substrate, [2] while Ground plane is located on the other surface of [2] Printed Circuit Substrate. Such [1] Receptor consist of two or more sets of homothetic structures as receiving elements which comprise of: Microstrip Elements Type [11]; Microstrip Elements Type [12]; Microstrip Elements Type [13] Microstrip Elements Type [14] and Microstrip Elements Type [15]. Such receiving elements are comprised of a number of flexures in series sinuosity. Such receiving elements are connected in that, lower ends of Microstrip Elements Type [12] to be connected to Microstrip Elements Type [14] while the upper ends to be connected to the upper ends of Microstrip Elements Type [11]. Such upper ends of Microstrip Elements Type [13] are located below upper ends of Microstrip Elements Type [12], and lower ends of Microstrip Elements Type [13] are not connected to Microstrip Elements Type [14]. Such one end of Microstrip Elements Type [15] to be connected to [3] Signal Combining Circuit while the other end of Microstrip Elements Type [15] to be connected to Microstrip Elements Type [14] via Microstrip Elements Type [17], an that length of Microstrip Elements Type [15] set to cause a matching impedance equals to 75 ohms and entire planar structure may be enclosed within protective cover.

