

INFY GEN: Enhancing Network Stability upto Infinity with the Built-in Material Graphene

Monieesh S¹, Dr.G.Saravanan², Savitha R³, Dhanapal M⁴,
Dr.A.V.Santhosh Babu⁵

¹ B.Tech. Artificial Intelligence and Data Science, Erode Sengunthar Engineering College, Perundurai, Erode, Tamil Nadu, India
smonieesh@gmail.com

² Associate Professor, Department of Artificial Intelligence and Data Science, Erode Sengunthar Engineering College, Erode, Tamil Nadu, India
gsaravanan.esec@gmail.com

³ Assistant professor, Department of Artificial Intelligence and Data Science, Erode Sengunthar Engineering College, Erode, Tamil Nadu, India
savithakarhick92@gmail.com

⁴ Assistant professor, Department of Information Technology, Erode Sengunthar Engineering College, Erode, Tamil Nadu, India
dhanainfotech@gmail.com

⁵ Professor, Department of Computer Science and Engineering, Erode Sengunthar Engineering College, Erode, Tamil Nadu, India
santhosh.vadivalagan@gmail.com

Abstract

The 2G, 3G and 4G refers to the second, third and fourth generation of communication networks. Here, the INFY GEN refers to the network where the ability is up to the level of INFINITY. That's why it is termed as INFY GEN. The antenna used in the 5G Technology (MIMO) is used in the process of INFY GEN networking. The elements used in the MIMO technology is further used as an in-built in the mobiles to achieve portable and accuracy of networking. In this process, the human being with a mobile phone will be acting as towers for the purpose of the infinite speed of connectivity and networking. A Nano material is placed as an in-built in the mobile phones. This is the wide reason and technology which helps the mobile phones to resemble as towers. Hereby, the nano material used inside the mobile phones is graphene. The Graphene is the element used inside the MIMO towers. Also, this element (graphene) is going to be widely used inside the mobile phones to implement and initiate the tower less mobiles in the ecosystem. This methodology will become a great revolution in the world within 3 years after implementation. By implementing this

innovative methodology, we can able to save the five-sensed organisms (i.e., Birds and animals) from the radiation of electromagnetic radiation. The frequential rays are purely non-ionizing radiations. The non-ionizing radiations are under the frequency level of (30KHz to 750THz). Since the traversal is done between the mobile-to-mobile networks, the range of the traversal will be mostly within the lower range environment. This type of traversal is also called as human networking (mobile-to-mobile connectivity).

Keywords: INFY GEN, MIMO, Mobile-To-Mobile, Nano-Material, Non-Ionizing

Introduction

During the preceding few years, mobile and wireless networks have been developed remarkably. The 5G technological standard for broadband cellular networks, which cellular network providers started rolling out globally in 2019, is the anticipated replacement for the 4G networks that connect the majority of modern mobiles. By delivering a fast rate of connectivity, the INFY GEN will be a predicted alternative for the 5G network. The speed of INFY GEN will be beyond the capability of measurement when compared to 5G network. Since it's speed and connectivity is dependent on the nearby mobile users. Where each mobile device serves as a tower. Our mobile also serves as a tower even when none are nearby. While you are alone in another location, you can make a less-connected call to the individual you need. With this INFY GEN, you can take your network and towers with you everywhere you go. The second, third and fourth generations of communication networks are known as 2G, 3G and 4G respectively. In this instance, the term "INFY GEN" alludes to the network where the skill can reach levels of infinity. That is why it referred to as INFY GEN. The final decision regarding which mobile access network provider to use for a particular service will be produced by the INFY GEN terminal network. The notion of an Intelligent Internet phone with extensive connectivity is presented in this study, allowing the mobile device to select the best connection.

Enabling Technologies

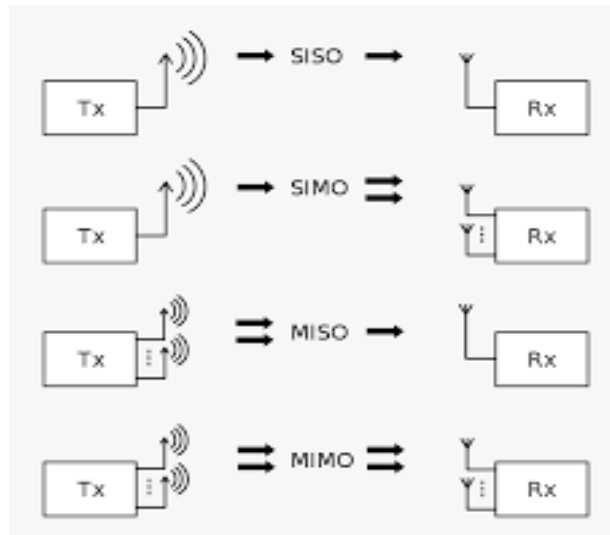
By developing a variety of technologies, including Massive MIMO, INFY GEN, Human Networking, Edge computing and Integrated Radio

Massive MIMO

The communication system's bandwidth and spectrum usage rate can be increased by implementing MIMO technology in smart phones without expanding the bandwidth. It may be characterized as the existence of

numerous separate channels between the broadcasting end and the receiving end, demonstrating that the antenna pieces are sufficiently separated from one another. MIMO is a technique by making use of numerous broadcasting and receiving antennas to benefit from multipath propagating plants, the ability of a radio link can be increased. Law enforcement, broadcast TV production, and the government are just a few of the industries that use MIMO technology in Wi-Fi networks, cellular fourth-generation (4G) Long-Term Evolution (LTE), and fifth-generation (5G) technologies. Law enforcement, broadcast TV production, and the government are just a few of the industries that use MIMO technology in Wi-Fi networks, cellular fourth-generation (4G) Long-Term Evolution (LTE), and fifth-generation (5G) technologies. The INFY GEN currently uses MIMO technology to enhance network connectivity and increase data transfer speeds. In wireless communications, the configuration has been referred to as multiple inputs and multiple output, or MIMO when several antennas are used on both of broadcasting end and the receiving end. MIMO enables the simultaneous transmission and reception of numerous data signals over a single radio channel. Along with MIMO, single input, multiple output (SIMO) and multiple input, single output (MISO) are two other popular smart antenna technologies. Another antenna is available; it is known as single input, single output and does not involve multiple inputs or outputs. (SISO).

Fig.1 Multi-Antenna Types



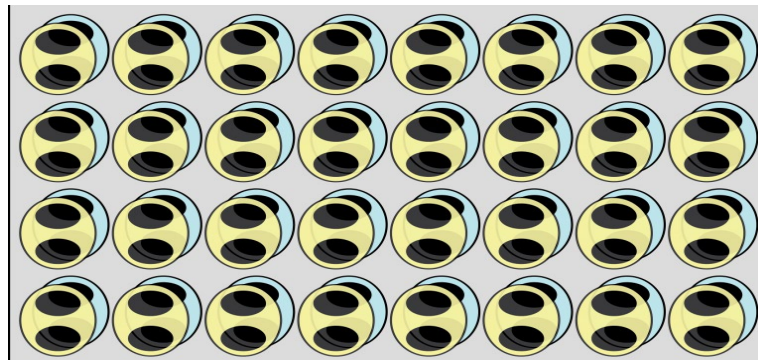
From Fig.1, The speaking volume of a particular person is measured in TX (transmit). How loud he/she perceive the other person to be speaking is called RX (receive). When Tx and RX are really high and low, it seems like you're at a conference. (etc.)

INFY GEN

The second, third, and fourth generations of communication networks, respectively, are commonly known as 2G, 3G, and 4G. Here, the term "INFY GEN" refers to a network whose potential is unbounded, indeterminate, and impossible to measure. For this reason, it is commonly known as INFY GEN.

With huge MIMO, each antenna has more than 100 components. which can link *10 times more the networks for 4G. For example, if a 4G tower can connect 10 mobile devices at once, MIMO can connect $10*10=100$ devices simultaneously. Here at INFY GEN, a tiny amount of antenna material (graphene) is more than adequate for a single smartphone. With the antiseptic aid of nanotechnology, the tiny substance (graphene) from antenna was manufactured and integrated into smart phones. The antenna's construction material can be shrunk in size, and integrating becomes simpler the minimized material (graphene) in the architectural layout of smart phones.

Fig.2, Elements in MIMO



From Fig.2, Graphene makes up each component entirely. Our electronic devices can be manufactured to meet the standards for implementing INFY GEN with the aid of graphene, making it possible to transfer data at extremely high speeds while using less energy. Carbon that is only one atom thick is called graphene. Because of its broad interface, high dielectric loss, and low density, graphene is greatly demanded as an electromagnetic wave (EM) absorber. The graphene has demonstrated that it is an excellent challenger for flexible RF sensors. It gives a particular advantage with regard to electrical conductivity, in along with the properties of conductive polymers and carbon materials.

Human Networking

Human networking is the connectivity of smart phones, where each and every smart phone deployed with INFY GEN works as a tower. In a scenario, an ensemble of people were gathered in a specific location, and each individual was carrying a smart phone. All of their devices would function as a tower if the INFY GEN was implemented.

Fig.3 Human Networking

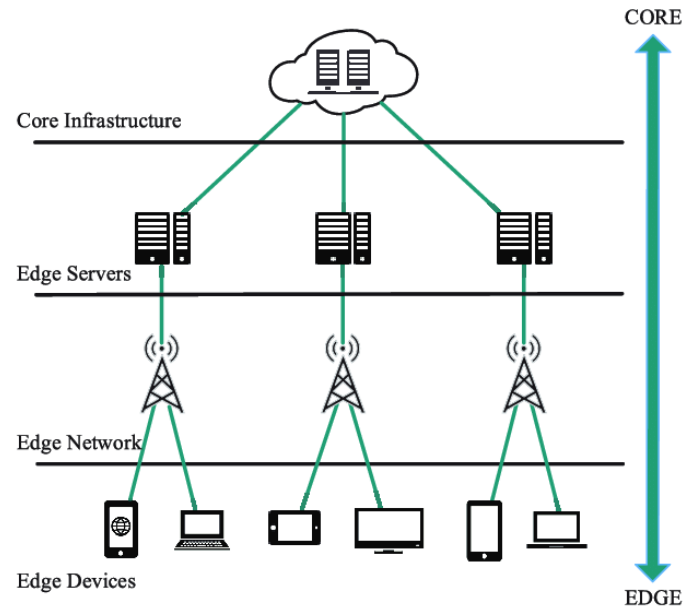


From Fig.3, The red man represents the station's base (Macro antenna), and other men are said to be smart phones with INFY GEN implementation. Every 3 km there are 4G towers, every 5 km there are 5G massive towers, and every 300 meters there are micro towers (Femto cells). There is zero prerequisite for micro towers while using INFY GEN because base stations may be built on macro towers every 30 to 50 km. The INFY GEN has caused, that every single smart phone will serve as a tower.

Edge Computing

The near-real-time processing of huge amounts of data generated by edge devices and applications closest to where it is captured is known as Mobile Edge Computing (MEC), which is perhaps better known today as multi-access computing. In other words, MEC extends the edge of your edge network infrastructure. Edge computing is advantageous because it moves data processing and storage closer to the smart phones. Edge Computing is a new computing paradigm that describes a variety of networks and devices that are at or close to the user. If someone has an INFY GEN-implemented smart phone and is lost in a remote area, they can simply get assistance by connecting to the farthest nearby tower, at least with firm network coverage. In this situation, edge computing is essential to strengthen the link to the remote location. Within your network, the network edge is located immediately outside the network core and consists of convergent areas including local data centers, Next-Generation Central Offices (NGCOs), fixed wire line access points, wireless access base stations, and Radio Access Networks. (RANs). It can also refer to on-site locations, such as Universal Customer Premise Equipment (UCPE) units where numerous workloads, like Software-Defined Wide Area Network (SD-WAN) and enterprise applications, can be hosted on a single edge-computing unit.

Fig.4 Edge Computing Architecture



From Fig.4, We can connect the network's edge server with the aid of edge computing, mobile devices to the edge of the network. Even with poorer connectivity, it is possible to link a person in a remote location. Whenever someone traverses with an INFY GEN-implemented smart phone, it's equivalent to taking a tower with them.

Integrated Radio

The shared on-site resources (like room, a power source, and air conditioning) with other telephone operators, including common antenna systems. The integrated radio combines all the comparable antennas consequently, all the INFY GEN implemented smart phones get connected to one another to gain the portability, high accuracy and the network's dependability to deliver the output as the networking speed of indeterminate and the extreme speed of data transfer.

Challenges in Migration From 5G

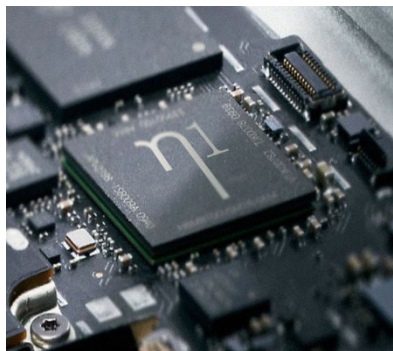
1. Every wireless network has unique qualities and functions. Choosing the most appropriate technology for a certain service at a particular location and time. The best feasible fit with the QoS requirements of customer will determine how INFY GEN is used.
2. Nanotechnology makes it feasible to generate graphene designs that are almost as possible, but the architectural process to incorporate

graphene into smart phones as an in-built material was little challenging.

3. Protection systems that are portable, versatile, and capable of reconfiguration should be created.
4. It is challenging to compile the account information of the client from numerous service providers. Consequently, the charging process becomes challenging.
5. Two major instances to be on alert for are jamming and spoofing. Because of fact that attackers deploy similar tactics with GPS assistance.
6. When processing edge computing, searching for and navigating among edge devices and signals may use more energy than usual. It rarely occurs.
7. Until the product reaches 40% of the population in certain location, expectations for the INFY GEN product's commercial debut are unmet. Because if the product was widespread in market, integrated radio's enabling mode would be feasible.
8. If an element is reduced in size through nanotechnology, there's a possibility that the efficiency will also decline. Although efficiency declines, the network and smart phone connectivity will still be at a high level.
9. It is more accurate because of the statistical details on network traffic.
10. Linking the existing non-IP and IP-based systems and ensuring the quality of end-to-end services which involve many systems.

Battery Consumption

There's a remedy solution of adding an in-built 2000mAh to 5000mAh battery specifically for the minimized Nano material(graphene) if the phone's battery needs to be recharged more frequently because of minimized in-built Nano material.



Frequential Measures

1. The 3G network operates between 1.8GHz and 2.5GHz in frequency.
2. The 4G network operates between 2GHz and 8GHz in frequency.
3. The non-ionizing radiation band, 700MHz to 26GHz, is the frequency range of the 5G network.
4. INFY GEN has a frequency range of 30GHz to 300GHz.

Features

1. For passionate smart phone users, INFY GEN enables high resolution and mutually exclusive big band width customization.
2. INFY GEN's dedication to fixing mistakes is the foundation of all of its superior offerings.
3. A transporter class interface with exceptional consistency is available from INFY GEN.
4. A user can obtain an unbiased practical solution with the application of remote management and human networking.
5. The encrypted private cloud is readily enabled by the INFY GEN.
6. Real wireless and tower-free environments without constraints on access or a region problems.
7. At its initial implementation stage, the INFY GEN offers a connectivity speed that is approximately no slower than 100 Mbps.

Conclusion

In the present inquiry, we have investigated INFY GEN for a communication system without a tower. This revolutionary innovation eliminates the need for towers while enhancing the precision and dependability of the networking system. With exceptional networking systems, the INFY GEN installed mobiles will be reasonably priced and readily available on the market. For dedicated smart phone users, INFY GEN offers an extraordinary level of resolution. There will be a significant technological change triggered by the INFY GEN.

This implies that several problems exist raised in this study, such as effective networking strategies and the coexistence of wireless technologies and protocols, are constraints to INFY GEN's success. By deploying suitable technology solutions, these challenges are surmountable. Among the outstanding issues in the wireless communications sector can be addressed using the findings of this study as a guideline. My upcoming research will examine the technical developments of INFY GEN's personalized manufacturing.

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