

## Electrical Engineering Departmental Research

### Patents:

#### Granted:

1. Toaha R. Khan, **Nadia Nawaz Qadri**, Hassan Iftikhar, "A Square shaped multi slotted 2.45GHz wearable antenna", USPTO US Application No. 15/626,536 Patent No. 10,283,867
2. M. Yasir Qadri, **Nadia N. Qadri**, Klaus Mcdonald Maier, "Software Controlled Data Prefetch Buffering", US Patent No. 9448805 Dated 20-09-2016.
3. "Congestion Avoidance, Detection, and Alleviation Scheme for Routing in Wireless Sensor Networks,. (MyIPO Patent File Number: PI 2015701189. 14<sup>th</sup> April 2015) (main-inventor).
4. Muhammad Bilal, **Z. Kaleem**, "Victim aware power control method and apparatus in wireless communication system", US20200383065A1, Dec 03, 2020.
5. Muhammad Bilal, **Z. Kaleem**, "Uplink power control method and apparatus for wireless communication systems, KR102146266B1, Dec 18, 2020.
6. K. H. Chang, Y. Li, **Z. Kaleem**, "Method and apparatus for interference-aware resource - sharing scheme for multiple D2D group communications underlying cellular networks," US 10149303 B2, Dec 04, 2018.
7. K. H. Chang, **Z. Kaleem**, "Method and Apparatus for Public safety users priority-based time and energy efficient D2D discovery in 3GPP LTE-A system," KR101886487, Aug. 01, 2018.
8. K. H. Chang, **Z. Kaleem**, "Method and System for QoS Priority-based Coordinated Scheduling and Hybrid Spectrum Access for Load Balancing in 3GPP LTE- A Ultra Dense Network," KR10-1722330.
9. K. H. Chang, **Z. Kaleem**, B. Hui, "System and method to mitigate interference of 3GPP LTE heterogeneous network according to priority of service," Intellectual Discovery Co., Ltd., US 9369969.
10. K. H. Chang, **Z. Kaleem**, B. Hui, "System and method to allocate frequency dynamically based on priority of quality of experience (QoE) in 3GPP LTE heterogeneous network," Intellectual Discovery Co., Ltd., US9313793 B2.
11. K. H. Chang, Y. Li, **Z. Kaleem**, "Method and Apparatus for Interference- aware Resource-sharing Scheme for Multiple D2D Group Communications Underlying Cellular Networks," KR10-1595698.
12. K. H. Chang, W. Kim, **Z. Kaleem**, "Method and Apparatus for Power Headroom Report-based Uplink Power Control in 3GPP LTE-A HetNet," KR10-1653927.
13. K. H. Chang, Y. Li, **Z. Kaleem**, "Method and Apparatus for Efficient Spectrum Sharing for Multiple D2D Group Communications Based on Interference Alignment," KR10-1653090.
14. K. H. Chang, C. H. Jee, **Z. Kaleem**, "Monitoring UAVs Ad-hoc Network Deployment for Public-Safety LTE System," KR10-1661861.
15. K. H. Chang, W. Kim, **Z. Kaleem**, "Method for System Interference-Aware Uplink Power Control in 3GPP LTE- A HetNet," KR10-1659692.
16. K. H. Chang, C. H. Jee, **Z. Kaleem**, "Monitoring UAVs Ad- hoc Network Architecture and Suitable Technologies to Detect, Track, and Eliminate Illegal UAVs," KR10-1668196.

17. K. H. Chang, I. Ahmad, and **Z. Kaleem**, "System and method to mitigate interference of 3GPP LTE HetNet according to priority of service using coordinated multipoint transmission and reception," KR101511905B1.
18. K. H. Chang and **Z. Kaleem**, "Dynamic and Spectrum Efficient Resource Allocation Procedure for Device Discovery in In- band or Out- of- band full- duplex D2D Communication Systems," KR10-1569296.
19. D.C. Lee and **M. Naeem**, "Methods of Selecting Signal Transmitting, Receiving, and/or Sensing Devices with Probabilistic Evolutionary Algorithms in Information Conveyance Systems," United States Patent US 8,457,240 B2, 2013.
20. D.C. Lee and **M. Naeem**, "EDA-based detection of communication signals," United States Patent US 8,391,421 B2, 2013.

**Filed:**

1. Toaha R. Khan, **Nadia Nawaz Qadri**, Hassan Iftikhar, "*A Square shaped multi slotted 2.45GHz wearable antenna*", IPO Pakistan Application No. 370/2016.
2. M. Yasir Qadri, **Nadia N. Qadri**, Klaus Mcdonald Maier, "*Software Controlled Instruction Prefetch Buffering*", U. S. Patent Application Serial No: 13/918,431.