

## PUBLICATIONS

### Patents & disclosures

1. Amin Abbosh, **Muhammad Ikram**, and Ahmed Toaha Mobashsher, “Steerable Flat Panel Antennas for Satellite Communications”, Australian Provisional Patent Application No. 2022901411, Filing Date: 25/05/2022, Industrial partner and potential Licensee EM Solutions.
2. Mohammad S. Sharawi and **Muhammad Ikram**, “Multi-Port Multi-Band Single Connected Multiple-input Multiple-output Antenna,” US Patent Office, granted, 21 May. 2019.
3. Mohammad S. Sharawi, **Muhammad Ikram**, and Rifaqat Hussain, “Integrated multi-standard antenna system with dual function connected array,” US Patent Office, published, 03 Oct. 2019.

### Journals

1. **Muhammad Ikram**, Kamel Sultan, Ahmed Toaha Mobashsher, Mahdi Moosazadeh, and Amin Abbosh, “Wide-angle Beam Steering Closed-Form Pillbox Antenna Fed by Substrate Integrated Waveguide Horn for On-the-Move Satellite Communications,” *Sensors*, MDPI, Switzerland, Jan. 2024.
2. Khaled Aljaloud, Kamel Sultan, **Muhammad Ikram**, Ali H Alqahtani, Qammar Hussain Abbasi, and Rifaqat Hussain, “Low-Profile Antenna System for Cognitive Radio in IoST CubeSat Applications,” *Sensors*, MDPI, Switzerland, May. 2023.
3. Muhammad Noman, Usman A Haider, Hidayat Ullah, **Muhammad Ikram**, Hatem Rmili, and Farooq A. Tahir, “High-Capacity Double-Sided Square-Mesh-Type Chipless RFID Tags,” *Electronics*, MDPI, Switzerland, Mar. 2023.
4. Rabbia Saleem, Wei Ni, **Muhammad Ikram**, and Abbas Jamalipour “Deep Reinforcement Learning-Driven Secrecy Design for Intelligent Reflecting Surface-Based 6G-IoT Networks,” *IEEE Internet of Things Journal*, Nov. 2022.
5. Kamel Sultan, **Muhammad Ikram**, and Nghia Nguyen-Trong, “Integrated Large-Frequency-Ratio Dual-Band Tapered Slot with Monopole Antenna for 4G/5G/B5G,” *Microwave and Optical Technology Letters*, Wiley, Oct. 2022.
6. Rifaqat Hussain, **Muhammad Ikram**, Abdullah M. Algarni, and Sheikh Sharif Iqbal, “Dual Sense Circularly Polarized Compact Slot Antenna for CubeSat Applications,” *IEEE Access*, Oct. 2022.
7. **Muhammad Ikram**, Kamel Sultan, Amin Abbosh, and Nghia Nguyen-Trong, “Sub-6 GHz and mm-Wave 5G Vehicle-to-Everything (5G-V2X) MIMO Antenna Array,” *IEEE Access*, May. 2022.
8. Kamel Sultan, **Muhammad Ikram**, and Nghia Nguyen-Trong, “A Multi-band Multi-beam Antenna for Sub-6 GHz and Mm-Wave 5G Applications,” *IEEE Antennas and Wireless Propagation Letters*, Mar. 2022.
9. **Muhammad Ikram**, “5G/B5G Internet of Things MIMO Antenna Design” *Signals, Multidisciplinary Digital Publishing Institute (MDPI)*, Switzerland, Jan. 2022.
10. <sup>1</sup>**Muhammad Ikram**, Kamel Sultan, Muhammad Faisal Lateef, and Abdulrahman S. M. Al-Qadami, “A Road towards 6G Communication—A Review of 5G Antennas, Arrays, and Wearable Devices” *Electronics*, MDPI, Switzerland, Jan. 2022.
11. A. Akram, Tanzeela G. Shahzady, Shabbir Hussain, Nada A. Saad, Md. Tanjir Islam, and **Muhammad Ikram**, “Liquid Crystal Polymers: Overview of Characteristics and Applications in Communication and Biomedical Technologies” *Russian Journal of Applied Chemistry*, Springer, Dec. 2021.
12. **Muhammad Ikram**, Nghia Nguyen-Trong, and Amin Abbosh, “Sub-6 GHz and mm-wave Band Shared-Aperture 5G Antenna System” *IEEE Access*, Nov. 2020.

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<sup>1</sup> Was top cited paper in the month of January 2022–June 2022.

13. **Muhammad Ikram**, Nghia Nguyen-Trong, and Amin Abbosh, "Hybrid Antenna using Open-Ended Slot for Integrated 4G/5G Mobile Application" *IEEE Antennas and Wireless Propagation Letters*, Mar. 2020.
14. Emad Al Abbas, **Muhammad Ikram**, Ahmed Toaha Mobashsher, and Amin M. Abbosh, "MIMO Antenna System for Multi-Band Millimeter-Wave 5G and Wideband 4G Mobile Communications" *IEEE Access*, Dec. 2019.
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16. **Muhammad Ikram**, Emad Al Abbas, Nghia Nguyen-Trong, Khalil H. Sayidmarie, and Amin Abbosh, "Integrated Frequency-Reconfigurable Slot Antenna and Connected Slot Antenna Array for 4G and 5G Mobile Handsets" *IEEE Transactions on Antennas and Propagation*, Vol. 67, No. 12, pp. 7225-7233, Dec. 2019.
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18. **Muhammad Ikram**, Nghia Nguyen-Trong, and Amin Abbosh, "Multiband MIMO Microwave and Millimeter Antenna System Employing Dual-function Tapered Slot Structure" *IEEE Transactions on Antennas and Propagation*, Vol. 67, No. 8, pp. 5705-5710, Aug. 2019.
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23. <sup>2</sup>**Muhammad Ikram**, Mohammad S. Sharawi, Atif Shamim, and A. Sebak, "A multiband dual-standard MIMO antenna system based on monopoles (4G) and connected slots (5G) for future smart phones," *Microwave and Optical Technology Letters, Wiley*, vol. 60, pp. 1468-1476, Nov. 2017.
24. <sup>3</sup>**Muhammad Ikram**, Mohammad S. Sharawi, K. klionovski, and Atif Shamim, "A switched-beam millimetre wave array with MIMO configuration for 5G applications," *Microwave and Optical Technology Letters, Wiley*, pp. 915-920, Sep. 2017.
25. <sup>3</sup>**Muhammad Ikram**, Mohammad S. Sharawi, and Atif Shamim, "A novel very wideband integrated antenna system for 4G and 5G mm-wave applications," *Microwave and Optical Technology Letters, Wiley*, vol. 59, no. 12, pp. 3082-3088, Sep. 2017.
26. **Muhammad Ikram**, Rifaqat Hussain, Oalid Hammi, and Mohammad S. Sharawi, "An L-shaped 4-element Monopole Antenna system with Enhanced Isolation for Mobile Applications," *Microwave and Optical Technology Letters, Wiley*, vol. 58, no. 11, pp. 2587-2591, Nov. 2016.

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<sup>2</sup> Was among the top 10% most downloaded papers in 2018- 2019.

<sup>3</sup> Was among 20 most read and downloaded papers in 2017-2018.

### Conferences, Posters, & Seminars

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5. **Muhammad Ikram** and Nghia Nguyen-Trong, "Single-Feed Dual-Band Antenna with Large Frequency Ratio for 5G Wireless Terminals" in *2021 IEEE Asia-Pacific Microwave Conference (APMC)*, Brisbane, Australia, 28 Nov.-1 Dec. 2021.
6. Nghia Nguyen-Trong and **Muhammad Ikram**, "Multiple-Open-Ended-Slot Antenna for Integrated 4G/5G Mobile Application" in *15th European Conference on Antennas and Propagation (EuCAP), Virtual conference*, 22-26 March 2021.
7. Nghia Nguyen-Trong and **Muhammad Ikram**, "Multi-functional Structures for 4G/5G Antennas Utilizing Slot Geometry," in *4th Australian Microwave Symposium*, Sydney, Australia, 13-14 February 2020.
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