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| **Title:** | Performance of a 5G MIMO Antenna for Detecting Damaged Lungs of Pneumonia Patients Related to Covid-19 | | |
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| **Abstract:** |  |
| Currently, world is facing COVID-19 pandemic where a huge number of people gets affected each day and dies. Various  symptoms are visible in a COVID-19 affected patient. One of them is short and long-term effect on lung. Hence, in this situation  conventionally people are using X-ray to detect lung affection. In this paper, the proposed antenna will help in faster detection of  pneumonia affected lung due to COVID-19. In this paper, the proposed model inset fed multiple-input-multiple-output (MIMO) Microstrip  patch antenna with a small size of mm is proposed for 38 GHz (Ka-band) which is in 5G frequency bands. The dimension of antenna is  3.561mm\*2.449mm\* 0.254mm and the main substrate of Rogers RT 5880 and a superstate of polyimide film. The antenna is placed on  both normal lung phantom and affected lung phantom. Simulation results of S11, Directivity and SAR shows comparatively better values.  Eventually, it can be said that the antenna has the potentiality to help in detection of affected lung. | |