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Patent Certificate

(पेटेंट नियमावली का नियम 74)

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आवेदन सं. / Application No.

201941017958

फाइल करने की तारीख / Date of Filing

06/05/2019

पेटेंटी / Patentee

1. INDIAN INSTITUTE OF TECHNOLOGY HYDERABAD  
2. WISIG NETWORKS PRIVATE LIMITED

प्रमाणित किया जाता है कि पेटेंटी को, उपरोक्त आवेदन में यथाप्रकटित **BEAMFORMED PHYSICAL DOWNLINK CONTROL CHANNEL FOR LTE WITH FULL DIMENSION MULTI INPUT MULTI OUTPUT** नामक आविष्कार के लिए, पेटेंट अधिनियम, 1970 के उपबंधों के अनुसार आज तारीख मई 2019 के छठे दिन से बीस वर्ष की अवधि के लिए पेटेंट अनुदत्त किया गया है।

It is hereby certified that a patent has been granted to the patentee for an invention entitled **BEAMFORMED PHYSICAL DOWNLINK CONTROL CHANNEL FOR LTE WITH FULL DIMENSION MULTI INPUT MULTI OUTPUT** as disclosed in the above mentioned application for the term of 20 years from the 6<sup>th</sup> day of May 2019 in accordance with the provisions of the Patents Act, 1970.



इकांत की दंडित

Controller of Patents

अनुदान की तारीख : 02/07/2024

**टिप्पणी** - इस पेटेंट के नवीकरण के लिए फीस, यदि इसे बनाए रखा जाना है, मई 2021 के छठे दिन को और उसके पश्चात प्रत्येक वर्ष में उसी दिन देय होगी।  
**Note** - The fees for renewal of this patent, if it is to be maintained, will fall / has fallen due on 6<sup>th</sup> day of May 2021 and on the same day in every year thereafter.





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## Patent Search

Invention Title	BEAMFORMED PHYSICAL DOWNLINK CONTROL CHANNEL FOR LTE WITH FULL DIMENSION MULTI INPUT MULTI OUTPUT
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### Abstract:

METHOD FOR WIRELESS COMMUNICATION USING BEAMFORMED PHYSICAL DOWNLINK CONTROL CHANNEL (PDCCH) ABSTRACT Embodiments of the present disclosure related a method for wireless communication. The method comprises receiving by a base station (BS), signals from a plurality of user equipment's (UEs) and obtaining estimates associated with each UE using the received signals. Next, calculating a first metric for each UE, and each of the plurality of beams associated with the BS using the obtained channel estimates and determining one or more best beams from a plurality of beams associated with the BS, and a second metric for each UE using the first metric. Further, segregating the UEs into groups based on the determined one or more best beams and the second metric. Thereafter, performing beamforming on control channel based on the one or more best beams, and performing allocation of at least one of resources, modulation and coding scheme for a control channel based on the segregated groups. Figure 17

### Complete Specification

DESC:FORM 2  
THE PATENTS ACT 1970  
[39 OF 1970]  
&  
THE PATENTS RULES, 2003

COMPLETE SPECIFICATION  
[See section 10 and rule 13]

TITLE: "METHOD FOR WIRELESS COMMUNICATION USING BEAMFORMED PHYSICAL DOWNLINK CONTROL CHANNEL (PDCCH)"

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