

## **Patent Summary**

The IIT Indore patent on “A SOFTWARE DEFINED RADIO MODULE TO PERFORM AN INTER-SYSTEM COMMUNICATION” is granted by the Patent Office, Government of India. The inventors Prof. Vimal Bhatia and Vijendra Singh Tomar from the Indian Institute of Technology Indore have proposed a novel method for an inter-system communication. Which provides an inexpensive, less power consuming communication link for making the communication possible between different radios operating in different frequency bands.

The invention teaches about converting the input signal operated at the first frequency band to an output signal operated at the second frequency band. The invention discloses configuring, by a radio module, at least one transceiver supported by a first radio system to transmit and receive a signal of a first frequency band, configuring at least one transceiver supported by a second radio system to transmit and receive a signal of a second frequency band, receiving an input signal of the first frequency band by at least one transceiver supported by the first radio system and converting the input signal operated at the first frequency band to an output signal operated at the second frequency band. The invention discloses about configuring a modulation hardware to oscillate at base frequency of the second frequency band, extracting the information from the received input signal of the first frequency band that includes a baseband data and further to the same, it includes transferring the baseband data to the modulation hardware and generating the output signal of the second frequency band at the modulation hardware.

**For Immediate Release:**

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**Grant of Patent from Electrical Engineering Department, IIT Indore**

Details:

Indian Patent Application No.- 4227/MUM/2015

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Title- A SOFTWARE DEFINED RADIO MODULE TO PERFORM AN INTER-SYSTEM COMMUNICATION




Inventors- Prof. Vimal Bhatia, and Vijendra Singh Tomar

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The invention teaches about converting the input signal operated at the first frequency band to an output signal operated at the second frequency band. The invention discloses configuring, by a radio module, at least one transceiver supported by a first radio system to transmit and receive a signal of a first frequency band, configuring at least one transceiver supported by a second radio system to transmit and receive a signal of a second frequency band, receiving an input signal of the first frequency band by at least one transceiver supported by the first radio system and converting the input signal operated at the first frequency band to an output signal operated at the second frequency band. The invention discloses about configuring a modulation hardware to oscillate at base frequency of the second frequency band, extracting the information from the received input signal of the first frequency band that includes a baseband data and further to the same, it includes transferring the baseband data to the modulation hardware and generating the output signal of the second frequency band at the modulation hardware.

**Professor Vimal Bhatia** is currently working as professor at the Indian Institute of Technology Indore. His research interests are in the broader areas of Wireless and Optical Communications, AI/Machine Learning, Signal Processing applications in telecommunications, optics, RADAR and in software product development.

**Vijendra Singh Tomar** completed his B.Tech. from IIT Indore.

 <b>INTELLECTUAL PROPERTY INDIA</b> PATENTS   DESIGNS   TRADE MARKS GEOGRAPHICAL INDICATIONS	 सत्यमेव जयते <b>भारत सरकार GOVERNMENT OF INDIA</b> पेटेंट कार्यालय THE PATENT OFFICE पेटेंट प्रमाणपत्र PATENT CERTIFICATE (Rule 74 Of The Patents Rules)	क्रमांक : 022115492 SL No : 
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फाइल करने की तारीख / Date of Filing	:	06/11/2015
पेटेंटी / Patentee	:	INDIAN INSTITUTE OF TECHNOLOGY INDORE
आविष्कारक (जहाँ लागू हो) / Inventor(s)	:	1.BHATIA VIMAL 2.TOMAR VIJENDRA SINGH
<p>प्रमाणित किया जाता है कि पेटेंटी को उपरोक्त आवेदन में यथाप्रकटित A SOFTWARE DEFINED RADIO MODULE TO PERFORM AN INTER-SYSTEM COMMUNICATION नामक आविष्कार के लिए, पेटेंट अधिनियम, १९७० के उपबंधों के अनुसार आज तारीख 6th day of November 2015 से बीस वर्ष की अवधि के लिए पेटेंट अनुदत्त किया गया है।</p> <p>It is hereby certified that a patent has been granted to the patentee for an invention entitled A SOFTWARE DEFINED RADIO MODULE TO PERFORM AN INTER-SYSTEM COMMUNICATION as disclosed in the above mentioned application for the term of 20 years from the 6th day of November 2015 in accordance with the provisions of the Patents Act,1970.</p>		
<b>INTELLECTUAL PROPERTY INDIA</b> PATENTS   DESIGNS   TRADE MARKS GEOGRAPHICAL INDICATIONS		
 पेटेंट कार्यालय THE PATENT OFFICE भारत सरकार GOVT. OF INDIA		 पेटेंट नियंत्रक Controller of Patent
अनुदान की तारीख : 01/11/2021 Date of Grant :		
<p>टिप्पणी - इस पेटेंट के नवीकरण के लिए फीस, यदि इसे बनाए रखा जाना है, 6th day of November 2017 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 6th day of November 2017 and on the same day in every year thereafter.</p>		