Patent Summary

The IIT Indore patent on "AN ULTRA LOW POWER, READ DECOUPLED-DIFFERENTIAL WRITE, 10T SRAM CELL WITH HIGHER READ/WRITE NOISE MARGIN" is granted by the Patent Office, Government of India. The inventors Dr. Vishal Sharma and Prof. Santosh Kumar Vishvakarma from the Indian Institute of Technology Indore have proposed the novel SRAM architecture for low power Industry application. The inventors breakthrough the power demand using a novel SRAM cell that works for low power subthreshold memory applications operating at ultra-low supply voltage. The architecture is more suitable for ultra-low-power battery-operated wearable electronic applications such as wireless sensors, mobile or any other handheld devices, and cache memory for processors/microcontrollers etc.

The design of SRAM memory cells has been very challenging with the continuous technology downscaling, and therefore the stability of SRAM gets vulnerable to the noise in VLSI circuit design. It is due to random variation at lower technology nodes through the process-variation and device-mismatch. Further, cache memory in SoC remains in standby mode and faces the burden of high leakage power consumption during subthreshold operation. To address these critical memory design issues, they have invented a novel 10T SRAM that reduces the leakage power using the subthreshold regime operation. The memory read speed and read/write stability have also been improved in this invented cell.

For Immediate Release:

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Grant of Patent from Electrical Engineering Department, IIT Indore.

Details:

Indian Patent Application No.- 201621033995
Grant No.- 358866
Filing Date- October 4, 2016
Date of Grant- February 19, 2021
Title- AN ULTRA LOW POWER, READ DECOUPLED-DIFFERENTIAL WRITE, 10T SRAM CELL WITH HIGHER READ/WRITE NOISE MARGIN
Inventors- Vishal Sharma, Santosh Kumar Vishvakarma

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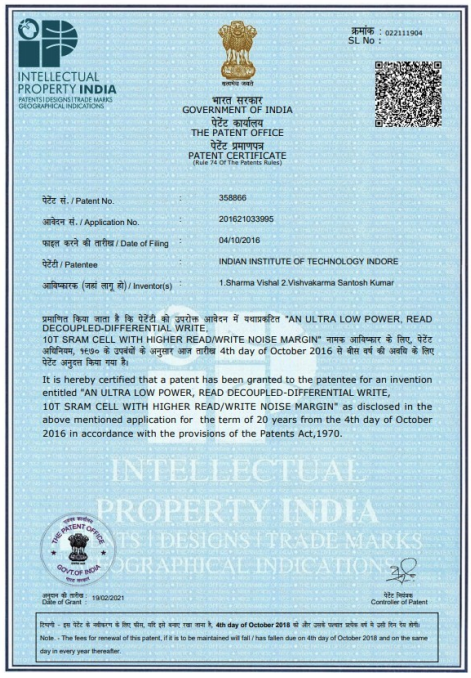
Dr. Vishal Sharma completed his Ph.D. from IIT Indore in 2019 and is currently pursuing his further research at Nanyang Technological University, Singapore as a Postdoctoral Research Fellow. His research interests include VLSI Compute In-memory design for AI applications, and High stability memory design for wearable electronic devices.

Professor Santosh Kumar Vishvakarma is currently working as an associate professor at the Indian Institute of Technology Indore. His current research interest is Compute-efficient, configurable VLSI circuit design for AI application, and low power and high-performance In-memory computing VLSI design.



INTELLECTUAL PROPERTY INDIA
PATENTS | DESIGNS | TRADE MARKS
GEOGRAPHICAL INDICATIONS

क्रमांक : 022111904
SL No :

भारत सरकार
GOVERNMENT OF INDIA
पेटेंट कार्यालय
THE PATENT OFFICE
पेटेंट प्रमाणपत्र
PATENT CERTIFICATE
(Rule 74 Of The Patents Rules)

पेटेंट सं. / Patent No.	:	358866
आवेदन सं. / Application No.	:	201621033995
फाइल करने की तारीख / Date of Filing	:	04/10/2016
पेटेंटी / Patentee	:	INDIAN INSTITUTE OF TECHNOLOGY INDORE
आविष्कारक (कर्ता लागू हो) / Inventor(s)	:	1.Sharma Vishal 2.Vishvakarma Santosh Kumar

प्रमाणित किया जाता है कि पेटेंटी को उपरोक्त आवेदन में यथाप्रकटित "AN ULTRA LOW POWER, READ DECOUPLED-DIFFERENTIAL WRITE-
10T SRAM CELL WITH HIGHER READ/WRITE NOISE MARGIN" नामक आविष्कार के लिए, पेटेंट अधिनियम, १९७० के उपबंधों के अनुसार आज तारीख 4th day of October 2016 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 "AN ULTRA LOW POWER, READ DECOUPLED-DIFFERENTIAL WRITE,
10T SRAM CELL WITH HIGHER READ/WRITE NOISE MARGIN" as disclosed in the above mentioned application for the term of 20 years from the 4th day of October 2016 in accordance with the provisions of the Patents Act,1970.

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अनुदान की तारीख : 19/02/2021
Date of Grant :

पेटेंट नियंत्रक
Controller of Patent

टिप्पणी - इस पेटेंट के नवीकरण के लिए शीघ्र, यदि इसे बनाए रखा जाना है, 4th day of October 2018 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 4th day of October 2018 and on the same day in every year thereafter.

Dr. Vishal Sharma

Dr. Santosh K Vishvakarma