

Curriculum Vitae



Name	Jakrapong Supadech
Position	Research Assistant Job Family R&D
Section	Microelectronics Research and Development Division
Division	Microelectronics Research and Development Division
Organization	National Electronics and Computer Technology Center
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Knowledge Taxonomy

Agricultural engineering
 Biochemical engineering
 Biological nanosensor technology
 Biomaterials
 Biomechanical engineering
 CMOS and BiCMOS data conversion circuits
 Chemistry technology
 Electric circuits
 Electrical engineering
 Electronics nanosensors technology
 Engine management
 Industrial engineering design
 Innovation and technology management
 Instruments and techniques
 Integrated circuit design
 Integrated circuits
 MEMS and Nanoelectronics
 Manufacturing system modeling
 Materials engineering
 Medical biotechnology
 N/A
 Nanotechnology
 Operation research
 Optical and photonic systems
 Packaging, storage and transportation
 Physics of electronic devices
 Polymers
 Semiconductor materials and devices
 Surface technology
 Thermal/Mechanical sensors

Publication / Prototype / Patent

Scholarly Outputs

Journal

- 2012 Karoon Saejok, Jakrapong Supadech, Charndet Hruanun, Chumnarn Punyasai, Nithi Atthi, and Asim Nisar, Muhammad Waseem Ashraf, Nitin Afzulpurkar, Shahzadi Tayyaba, 2012, Optimization of Fabrication Process for MEMS based Microneedles Using ICP Etching Technology, *Advanced Materials Research*, 2012(403), pp 4611-4616
Nithi Atthi, Onuma Nimittrakoolchai, Sitthisuntorn Supothina, Jakrapong Supadech, Wutthinan Jeamsaksiri, Apirak Pankiew, Charndet Hruanun, Amporn Poyai, and Claire-Helene Brachais, Ga?tan Dupuy, 2012, Increasing Active Surface Area to Fabricate Ultra-Hydrophobic Surface by Using "Black Silicon" with Bosch Etching Process, *JOURNAL OF NANOSCIENCE AND NANOTECHNOLOGY*, 12(6), 4919-4927
- 2011 Nithi Atthi, Onuma Nimittrakoolchai, Jakrapong Supadech, Sitthisuntorn Supothina, Oraphan Thongsook, Paweena Dulyaseree, Charndet Hruanun, Amporn Poyai, 2011, Effect of Black Silicon Pillar Height on Water Repellent and Surface Reflectance, *The journal of Microscope society of Thailand*, 1(4), 32-35
- 2010 Nithi Atthi, Sitthisuntorn Supothina, Onuma Nimittrakoolchai, Jakrapong Supadech, Wutthinan Jeamsaksiri, Apirak Pankiew, Charndet Hruanun, Amporn Poyai, 2010, An Effect of Viscosity of Coating Materials on Silicon Micro-Patterning Arrays for Superhydrophobic Surface, *Advanced Materials Research*, 2010(1), 447-450
Supanit Porntheeraphat, Jakrapong Supadech, Win Bunjongpru, Charndet Hruanun, Amporn Poyai, and อมรรรัตน์ เล็กวิชัย, 2010, A Disposable Polydimethylsiloxane Microdevice for DNA Amplification, *Advanced Materials Research*, 2010(93), 105-108
Nithi Atthi, Onuma Nimittrakoolchai, Sitthisuntorn Supothina, Jakrapong Supadech, Wutthinan Jeamsaksiri, Apirak Pankiew, Charndet Hruanun, Amporn Poyai, 2010, An Effect of Silicon Micro-/Nano-Patterning Arrays on Superhydrophobic Surface, *Journal of Nanoscience and Nanotechnology*, 2011(11), 1-7
Nithi Atthi, Karoon Saejok, Jakrapong Supadech, Wutthinan Jeamsaksiri, Oraphan Thongsook, Paweena Dulyaseree, Charndet Hruanun, Amporn Poyai, 2010, Improvement of Photoresist Film Coverage on High Topology Surface with Spray Coating Technique, *Journal of the Microscopy Society of Thailand*, 2010(24), 42-46
Nithi Atthi, Jakrapong Supadech, Oraphan Thongsook, Paweena Dulyaseree, Charndet Hruanun, Amporn Poyai, 2010, Fabricate Ultra-hydrophobic surface with low reflectance property by Using Black Silicon structure, *NECTEC Journal*, null(22), 1
- 2009 Awirut Srisuwan, Jakrapong Supadech, Opas Trithaveesak, Charndet Hruanun, Amporn Poyai, 2009, The Effect of Ti/TiN Diffusion Barrier Layer on Schottky Barrier Height of Al-Alloy/n-type Si Interface, *NECTEC Technical Journal*, 9(21), 94-96
- 2008 Awirut Srisuwan, Win Bunjongpru, Opas Trithaveesak, Jakrapong Supadech, Charndet Hruanun, Rattanawan Meananeatra, Amporn Poyai, and อ.วิสุทธิ์ ลีดิรุ่งเรือง, 2008, Study of Combined Device, p-n Junction Diode and Ion Selective Field Effect Transistor, for Temperature and pH measurement, *วิทยาศาสตร์และเทคโนโลยี มหาวิทยาลัยมหาสารคาม*, 27(2), 358-363
Amporn Poyai, Jakrapong Supadech, Charndet Hruanun, Nipapan Klunngien, Suwat Sopitpan, Eakkarach Ratanaudomphisut, 2008, Improving Sensitivity of p-n Junction Temperature Sensor by Carrier Lifetime Modification, *Advanced Materials Research*, 2008(55), 517-520
- 2007 Jakrapong Supadech, Charndet Hruanun, Amporn Poyai, 2007, A study of p-n and Zener junction affects to Temperature by PTAT circuit, *วิศวกรรมลาดกระบัง*, 24(4), 31-36
Jakrapong Supadech, Eakkarach Ratanaudomphisut, Charndet Hruanun, Amporn Poyai, and ศิริพร ดงมาลัย, เดิมพงษ์ เพ็ชรกุล, 2007, A study of p-n and Zener junction affects to Temperature by PTAT circuit, *วิศวกรรมลาดกระบัง*, 24(4), 31-36

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- 2011 Nithi Atthi, Kazuo Imai, Jakrapong Supadech, Wutthinan Jeamsaksiri, Charndet Hruanun, Amporn Poyai, 2011, "Rapid fabrication of sub-10-nm silicon pillars using a natural mask with RIE, Piranha oxidation, and HF wet etching", *The 24th International Microprocesses and Nanotechnology Conference (MNC2011)*, 115, 26P761
Karoon Saejok, Boonkue Phinyo, Nutthaphat Thornyanadacha, Apirak Pankiew, Jakrapong Supadech, Charndet Hruanun, Nipapan Klunngien, Montree Saenlamool, Raphipong Chokrungitsaranukul, Wittawat Yamwong, Wutthinan Jeamsaksiri, Amporn Poyai, Ekalak Chaowicharat, Opas Trithaveesak, 2011, "Pressure Sensor Fabrication for high sensitivity using 0.8 um Diaphragm at 3 um Cavity of Surface MEMS by DRIE technique", *การประชุมวิชาการทางวิศวกรรมไฟฟ้า (EECON)*, 140, 853-856

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- 2010 Nithi Atthi, Karoon Saejok, Jakrapong Supadech, Wutthinan Jeamsaksiri, Paweena Dulyaseree, Oraphan Thongsook, Charndet Hruanun, Amporn Poyai, 2010, "Improvement of Photoresist Film Coverage on High Topology Surface with Spray Coating Technique", The 27th Annual Conference of The Microscope Society of Thailand, 140, 48-49
- Supanit Porntheeraphat, Jakrapong Supadech, Win Bunjongpru, Charndet Hruanun, Amporn Poyai, and วิศรุต ศรีพุ่มไข, 2010, "A Disposable Polydimethylsiloxane (PDMS) Microdevice for DNA Amplification with Low Power Consumption", Nanoelectronics Conference (INEC), 2010 3rd International, 109, 1440
- Nithi Atthi, Jakrapong Supadech, Wutthinan Jeamsaksiri, Apirak Pankiew, Charndet Hruanun, Amporn Poyai, 2010, "Study the Optimization Condition of Deep Reactive-Ion Etching for Silicon-mold Fabrication", การประชุมวิชาการวิศวกรรมไฟฟ้าแห่งประเทศไทย (EECON), 140, 1145-1148
- Nithi Atthi, Jakrapong Supadech, Onuma Nimittrakoolchai, Sitthisuntorn Supothina, Wutthinan Jeamsaksiri, Apirak Pankiew, Charndet Hruanun, Amporn Poyai, and Gaetan Dupuy, 2010, "Increasing Active Surface Area to Fabricate Ultra-hydrophobic Surface by Using Black Silicon with "Bosch" Etching Process", the 5th International Conference on Surfaces, coatings, and nanostructured materials, (NANOSMAT-5), 210, 1-7
- 2009 Nithi Atthi, Kasem Tantanasiwong, Apirak Pankiew, Jakrapong Supadech, Naritchaphan Penpondee, Win Bunjongpru, Awirut Srisuwan, Charndet Hruanun, Amporn Poyai, 2009, "The Microstructure Pattern Quality Investigation After Patterning and Etching Steps by Using SEM and EDX Characterization Techniques", The 26th Annual Conference of The microscopy society of Thailand, (MST-2009), 140, 139-140
- Jakrapong Supadech, Nipapan Klunngien, Awirut Srisuwan, Opas Trithaveesak, Charndet Hruanun, Amporn Poyai, 2009, "A Study on the Effects of CHF3 Gas on Contact Etching for CMOS 0.8 micron", Kasetsart University Annual Conference, 140, 129-136
- Nithi Atthi, Jakrapong Supadech, Awirut Srisuwan, Apirak Pankiew, Wutthinan Jeamsaksiri, Opas Trithaveesak, Charndet Hruanun, Amporn Poyai, 2009, "The effects of photoresist pattern shape to deep-etched pattern quality", The 4th International Conference on Sensors (ASIA sense 2009), 140, 97
- Nithi Atthi, Onuma Nimittrakoolchai, Jakrapong Supadech, Apirak Pankiew, Wutthinan Jeamsaksiri, Sitthisuntorn Supothina, Charndet Hruanun, Amporn Poyai, 2009, "Effect of Si micro-pattern shape on water-repellant surface properties", The 4th International Conference on Sensors (ASIA sense 2009), 140, 98
- Nithi Atthi, Jakrapong Supadech, Opas Trithaveesak, Wutthinan Jeamsaksiri, Charndet Hruanun, Amporn Poyai, and Naphat Chathirat, 2009, "Fabrication of transducer on opaque substrate by using ultra-thin transparent membrane for biosensor application", The 4th International Conference on Sensors (ASIA sense 2009), 140, 42
- Nithi Atthi, Oraphan Thongsook, Onuma Nimittrakoolchai, Jakrapong Supadech, Apirak Pankiew, Wutthinan Jeamsaksiri, Sitthisuntorn Supothina, Charndet Hruanun, Amporn Poyai, 2009, "Increasing Superhydrophobic Surface Roughness by Pentagonal and Octagonal Micro-pattern Arrays", the 35th Micro & Nano Engineering 09 Conference, (MNE2009), 204, 21
- Nithi Atthi, Sitthisuntorn Supothina, Onuma Nimittrakoolchai, Jakrapong Supadech, Wutthinan Jeamsaksiri, Apirak Pankiew, Charndet Hruanun, Amporn Poyai, 2009, "An Effect of Viscosity of Coating Materials on Silicon Micro-Patterning Arrays for Superhydrophobic Surface", The International Conference on Functionalized and Sensing Materials (FUSEM 2009), 140, 207
- Nithi Atthi, Onuma Nimittrakoolchai, Jakrapong Supadech, Apirak Pankiew, Wutthinan Jeamsaksiri, Sitthisuntorn Supothina, Charndet Hruanun, Amporn Poyai, 2009, "An Effect of Silicon Micro-Patterning Arrays on Superhydrophobic Surface", The 4th International Conference on Surfaces Coatings and Nanostructured Materials, (NANOSMAT2009), 219, 11
- Jakrapong Supadech, Win Bunjongpru, Awirut Srisuwan, Opas Trithaveesak, Charndet Hruanun, Amporn Poyai, and จิติ หนูแก้ว, ธนากร เขียวสกุล, 2009, "Fabrication and Applications of Micro Flow Sensor using ISFET Device", ASIASENSE 2009, 140, 84
- Jakrapong Supadech, Win Bunjongpru, Awirut Srisuwan, Opas Trithaveesak, Charndet Hruanun, Amporn Poyai, and จิติ หนูแก้ว, ธนากร เขียวสกุล, 2009, "Fabrication and Applications of Micro Flow Sensor using ISFET Device", ASIASENSE 2009, 140, 84
- Jakrapong Supadech, Win Bunjongpru, Awirut Srisuwan, Opas Trithaveesak, Charndet Hruanun, Amporn Poyai, and จิติ หนูแก้ว, 2009, "Fabrication and Applications of Micro Flow Sensor using ISFET Device", ASIASENSE 2009, 140, 84

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Jakrapong Supadech, Win Bunjongpru, Awirut Srisuwan, Opas Trithaveesak, Charndet Hruanun, Amporn Poyai, and จิติ หนูแก้ว, 2009, "Fabrication and Applications of Micro Flow Sensor using ISFET Device", ASIASENSE 2009, 140, 84

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Win Bunjongpru, Opas Trithaveesak, Jakrapong Supadech, Awirut Srisuwan, Charndet Hruanun, Amporn Poyai, 2009, "Fabrication and Applications of Micro Flow Sensor using ISFET Device", ASIASENSE 2009, 140, 84

Jakrapong Supadech, Win Bunjongpru, Supanit Porntheeraphat, Charndet Hruanun, Amporn Poyai, and จิติ หนูแก้ว, วิศรุต ศรีพุ่มไช, อมรรัตน์ เล็กวิชัย, 2009, "A Disposable Polydimethylsiloxane Micro-PCR device for

DNA Amplification", FuSeM2009, 140, 157

2008 Jakrapong Supadech, Eakkarach Ratanaudomphisut, Charndet Hruanun, Amporn Poyai, 2008, "Characteristics of silicon thin film thermistors", ECTI-CON 2008, 000, 1-4

Amporn Poyai, Jakrapong Supadech, Charndet Hruanun, Nipapan Klunngien, Suwat Sopitpan, Eakkarach Ratanaudomphisut, 2008, "Improving Sensitivity of p-n Junction Temperature Sensor by Carrier Lifetime Modification", Smartmat-08&IWO FM-2, 000, 1-4

Amporn Poyai, Jakrapong Supadech, Charndet Hruanun, Nipapan Klunngien, Suwat Sopitpan, Eakkarach Ratanaudomphisut, 2008, "Effect of Cobalt Silicide to the Sensitivity of p-n Junction Temperature Sensor", ECTI-CON2008, 000, 781-784

Jakrapong Supadech, Eakkarach Ratanaudomphisut, Charndet Hruanun, Amporn Poyai, and พรศิริ คงมาลัย, เต็มพงษ์ เพ็ชรกุล, 2008, "Study on temperature effect on p-n and Zener junction for PTAT temperature sensor", The Fifth International Conference in Electrical Engineering/ Electronics, Computer, Telecommunications and Information Technology (ECTI-CON2008), 000, 785-788

Working Document

2014

Pawadee Meesapawong, Karoon Saejok, Jakrapong Supadech, Jirawat Jantawong, Jirawat Prabket, Rattanawan Meananeatra, Wittawat Yamwong, Amporn Poyai, Eakkarach Ratanaudomphisut, Opas Trithaveesak, 2014, "TMEC Research Strategy Volume 3: Importance of Commercialization-related Factors"

Rattanawan Meananeatra, Jakrapong Supadech, Jirawat Prabket, Chana Leepattarapongpan, Putapon Pengpad, Awirut Srisuwan, Nipapan Klunngien, Patchara Suntaro, Watcharapong Paosangthong, Oraphan Thongsook, Arckom Srihapat, Charndet Hruanun, Amporn Poyai, 2014, "-", 11

Rattanawan Meananeatra, Woraphan Chaisriratanakul, Watcharapong Paosangthong, Jakrapong Supadech, Chana Leepattarapongpan, Nutthaphat Thornyanadacha, Patchara Suntaro, Win Bunjongpru, Sarunya Suntalelat, Oraphan Thongsook, Awirut Srisuwan, Arckom Srihapat, Kiattiwut Prasertsuk, 2014, "-", 7

Jirawat Prabket, Arckom Srihapat, Jakrapong Supadech, Chana Leepattarapongpan, Nipapan Klunngien, Putapon Pengpad, Win Bunjongpru, Witsaroot Sripumkhai, Awirut Srisuwan, 2014, "The measured results for VIA_Contact Resistance LOT PS13P5005.", 6

Arckom Srihapat, Jakrapong Supadech, Jirawat Prabket, Chana Leepattarapongpan, Putapon Pengpad, Win Bunjongpru, Witsaroot Sripumkhai, Awirut Srisuwan, Charndet Hruanun, Nipapan Klunngien, Amporn Poyai, 2014, "Compensate for the stress of thin film Silicon shadow mask by PECVD process.", 5

Jirawat Jantawong, Watcharapong Paosangthong, Jakrapong Supadech, Witsaroot Sripumkhai, Wutthinan Jeamsaksiri, Charndet Hruanun, Amporn Poyai, 2014, "Particles Sorter Using Multiple Depth Microchannel", 7

Thawatchai Kamsri, Raphipong Chokrungitsaranukul, Eakkarach Ratanaudomphisut, Jakrapong Supadech, Jirawat Prabket, Thanut Tosanguan, Nutthaphat Thornyanadacha, Montree Saenlamool, Charndet Hruanun, Nimit Somwang, Amporn Poyai, Opas Trithaveesak, 2014,

Scholarly Outputs

Working Document

- "Printed circuit board Design of the Photo Array", 3
- Ratthasart Amarit, Sataporn Chanhorm, Armote Somboonkaew, Jakrapong Supadech, Jirawat Jantawong, Win Bunjongpru, Witsaroot Sripumkhai, Wutthinan Jeamsaksiri, Supanit Porntheeraphat, and ชิตา แสงสว่าง, นุชนารถ ตั้งจิตสมคิด, บุญส่ง สุตะพันธ์, 2014, "Fluidic chips for nematode imaging and separation", 41
- 2013 Kiattiwut Prasertsuk, Aekchai Chummano, Jakrapong Supadech, Win Bunjongpru, Sarunya Suntalelat, Oraphan Thongsook, Kazuo Imai, Charndet Hruanun, Amporn Poyai, 2014, "The Study of ALEG-380 Experiment for using in Semiconductor Fabrication Process", 12
- Thawatchai Kamsri, Jakrapong Supadech, Raphipong Chokrungitsaranukul, Rungtawee Piyananjaratsri, Eakkarach Ratanaudomphisut, Charndet Hruanun, Amporn Poyai, 2013, "The procedure report of designed the 2 channel thermal display circuit for TMEC temperature sensor and communicating by RS232 and RS485.", 3
- Jakrapong Supadech, Chana Leepattarapongpan, Rungtawee Piyananjaratsri, Awirut Srisuwan, Opas Trithaveesak, Charndet Hruanun, Amporn Poyai, 2013, "Study of relationship between Ion implantation and Dry oxidation rate on Si", 5
- Jakrapong Supadech, Watcharapong Paosangthong, Awirut Srisuwan, Arckom Srihapat, Opas Trithaveesak, Charndet Hruanun, Amporn Poyai, 2013, "Development of Reactive Ion Etching Process for Power Diode Device", 6
- Arckom Srihapat, Jakrapong Supadech, Charndet Hruanun, Nipapan Klunngien, Sompoch Aroonsiri, Awirut Srisuwan, satianphong phumphuang, Amporn Poyai, 2013, "Testing the dry cleaning process of the grown films with PECVD", 8
- Jirawat Prabket, Arckom Srihapat, Jakrapong Supadech, Charndet Hruanun, Sompoch Aroonsiri, Awirut Srisuwan, satianphong phumphuang, Nipapan Klunngien, Amporn Poyai, 2013, "Testing measurement models, one instance with Ellipsometer", 6
- Chana Leepattarapongpan, Witsaroot Sripumkhai, Arckom Srihapat, Jirawat Prabket, Charndet Hruanun, Nipapan Klunngien, Jakrapong Supadech, Sompoch Aroonsiri, Awirut Srisuwan, Amporn Poyai, satianphong phumphuang, 2013, "Stress caused by the growing film with the film grown with PECVD", 5
- 2012 Rungtawee Piyananjaratsri, Woraphan Chaisriratanakul, Jakrapong Supadech, Chana Leepattarapongpan, Rattanawan Meananeatra, Witsaroot Sripumkhai, Apirak Pankiew, Awirut Srisuwan, Arckom Srihapat, Charndet Hruanun, Amporn Poyai, Opas Trithaveesak, 2012, "The Preparation of Chemical Sensors for nitrate ion detection.", 6
- Rungtawee Piyananjaratsri, Jakrapong Supadech, Chana Leepattarapongpan, Rattanawan Meananeatra, Woraphan Chaisriratanakul, Witsaroot Sripumkhai, Apirak Pankiew, Awirut Srisuwan, Arckom Srihapat, Charndet Hruanun, Amporn Poyai, Opas Trithaveesak, 2012, "Studying detection of nitrate ion by potentiometry technic.", 5
- Jakrapong Supadech, Awirut Srisuwan, Arckom Srihapat, Opas Trithaveesak, Charndet Hruanun, Amporn Poyai, 2012, "Etch rate of Silicon Nitride by SAMCO machine", 6
- Jakrapong Supadech, Awirut Srisuwan, Rattanawan Meananeatra, Rungtawee Piyananjaratsri, Win Bunjongpru, Arckom Srihapat, Opas Trithaveesak, Charndet Hruanun, Amporn Poyai, 2012, "The development of silicon nitride etching process for ISFET", 5
- Jakrapong Supadech, Witsaroot Sripumkhai, Awirut Srisuwan, Rattanawan Meananeatra, Arckom Srihapat, Opas Trithaveesak, Charndet Hruanun, Amporn Poyai, 2012, "A 1:1 plasma etch selectivity between TEOS oxide and photoresist 5 um", 6
- Jakrapong Supadech, Win Bunjongpru, Awirut Srisuwan, Chana Leepattarapongpan, Rattanawan Meananeatra, Opas Trithaveesak, Charndet Hruanun, Amporn Poyai, 2012, "The development of silicon dioxide etching process for ISFET", 5
- Patchara Suntaro, Rattanawan Meananeatra, Jakrapong Supadech, Jakgarin Latthidech, 2012, "The Study of Auto Alignment of Layer Solar Tracking", 8
- Thawatchai Kamsri, Jakrapong Supadech, Raphipong Chokrungitsaranukul, Rungtawee Piyananjaratsri, Eakkarach Ratanaudomphisut, Charndet Hruanun, Amporn Poyai, 2012, "Developing the Thermal Alarm circuit for reading value via RS232 communication.", 4
- 2011 Jakrapong Supadech, Awirut Srisuwan, Nutthaphat Thornyanadacha, Nimit Somwang, Win

Scholarly Outputs

Working Document

- Bunjongpru, Opas Trithaveesak, Charndet Hruanun, Amporn Poyai, 2011, "Etch rate of Titanium nitride by SAMCO machine", 5
- Thawatchai Kamsri, Jakrapong Supadech, Raphipong Chokrungitsaranukul, Rungtawee Piyananjaratsri, Eakkarach Ratanaudomphisut, Charndet Hruanun, Amporn Poyai, 2011, "Designing the 2 channel temperature reader circuit for the TMEC temperature sensor which reading value via RS232 communication.", 3
- Thawatchai Kamsri, Jakrapong Supadech, Raphipong Chokrungitsaranukul, Rungtawee Piyananjaratsri, Eakkarach Ratanaudomphisut, Charndet Hruanun, Amporn Poyai, 2011, "Designing the 1 channel temperature reader circuit for the TMEC temperature sensor and the frequency counter.", 2
- Raphipong Chokrungitsaranukul, Thawatchai Kamsri, Win Bunjongpru, Awirut Srisuwan, Karoon Saejok, Jakrapong Supadech, Charndet Hruanun, Nutthaphat Thornyanadacha, Nimit Somwang, Rungtawee Piyananjaratsri, Woraphan Chaisriratanakul, Wutthinan Jamsaksiri, Amporn Poyai, Eakkarach Ratanaudomphisut, Opas Trithaveesak, 2011, "Testing Prototype Printed circuit board of PH Sensor"
- Raphipong Chokrungitsaranukul, Thawatchai Kamsri, Karoon Saejok, Jakrapong Supadech, Charndet Hruanun, Nutthaphat Thornyanadacha, Nimit Somwang, Rungtawee Piyananjaratsri, Amporn Poyai, Eakkarach Ratanaudomphisut, Opas Trithaveesak, 2011, "Testing Design Monitor Display Printed circuit board of Temperature Sensor"
- Raphipong Chokrungitsaranukul, Thawatchai Kamsri, Karoon Saejok, Jakrapong Supadech, Charndet Hruanun, Nutthaphat Thornyanadacha, Nimit Somwang, Rungtawee Piyananjaratsri, Amporn Poyai, Eakkarach Ratanaudomphisut, Opas Trithaveesak, 2011, "Testing Design Main Control Printed circuit board of Temperature Sensor"
- Raphipong Chokrungitsaranukul, Thawatchai Kamsri, Eakkarach Ratanaudomphisut, Jakrapong Supadech, Charndet Hruanun, Nimit Somwang, Rungtawee Piyananjaratsri, Amporn Poyai, Opas Trithaveesak, 2011, "Testing Design Memory card Printed circuit board of Temperature Sensor"
- Raphipong Chokrungitsaranukul, Thawatchai Kamsri, Eakkarach Ratanaudomphisut, Jakrapong Supadech, Charndet Hruanun, Nimit Somwang, Rungtawee Piyananjaratsri, Amporn Poyai, Opas Trithaveesak, 2011, "Printed circuit board design of Temperature Sensor memory"
- Karoon Saejok, Jakrapong Supadech, Nutthaphat Thornyanadacha, Boonkue Phinyo, Opas Trithaveesak, Eakkarach Ratanaudomphisut, Charndet Hruanun, Ekalak Chaowicharat, Amporn Poyai, 2011, "Research and test Pressure Sensor for high sensitivity using 0.8 um Membrane at 3um Cavity of Surface MEM by DRIE technique", 14
- Karoon Saejok, Jakrapong Supadech, Nutthaphat Thornyanadacha, Boonkue Phinyo, Opas Trithaveesak, Eakkarach Ratanaudomphisut, Charndet Hruanun, Ekalak Chaowicharat, Amporn Poyai, 2011, "Research and test Pressure Sensor using 3um deep of Cavity of Surface MEM by DRIE technique for 0 to 15 bar Application Pressure Range", 15
- Pongpun Kanlapa, Komson Bunyavanich, Jakrapong Supadech, Jakgarin Latthidech, Nattapol Rouengratchaneekorn, Warunyu Susen, Sompoch Aroonsiri, Surapun Tongrungsi, Suwat Sopitpan, satianphong phumphuang, Phaiboon Khomdet, Amporn Poyai, 2011, "-", 4
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RDE

Patent

1 อุปกรณ์ตรวจรู้แสงอาทิตย์
1 อุปกรณ์วัดความชื้นในดิน
1 ระบบป้องกันและควบคุมความร้อนในเครื่องกำเนิดคลื่นเอกซเรย์สำหรับเครื่องเอกซเรย์คอมพิวเตอร์แบบลำแสงทรงกรวย
1 วิธีการตรวจจับอุณหภูมิสำหรับการคาลิเบต (Calibrate) เครื่องอย่างอัตโนมัติสำหรับเครื่องเอกซเรย์คอมพิวเตอร์
1 เทคนิคและกระบวนการสร้าง ชั้นช่องว่าง (CAVITY) สำหรับ อุปกรณ์ตรวจจับชนิดโครงสร้างแบบแผ่นบางซิลิกอนแบบเชิงผิว
1 วิธีการสร้างแท่งนาโนซิลิกอนเปล่งแสง
1 กระบวนการสร้าง ชั้นช่องว่าง (CAVITY) แบบลอยตัวและโครงสร้างของชั้นช่องว่าง (CAVITY) ดังกล่าว
1 วิธีการสร้างพื้นผิวที่น้ำและน้ำมันไม่เกาะแบบยิ่งยวดที่มีคุณสมบัติการสะท้อนแสงต่ำด้วยโครงสร้างแบบซิลิกอนดำ
2013 เครื่องมือวัด-บันทึกและแจ้งเตือนกรณีเครื่องยนต์มีความร้อนผิดปกติ
1 วิธีการยึดจับแผ่นฐานที่มีร่องลึกอยู่บนผิวหน้าด้านที่จะถูกยึดจับโดยแท่นสุญญากาศในกระบวนการผลิตอุปกรณ์สารกึ่งตัวนำ
- วิธีการสร้างขั้วไฟฟ้าอ้างอิงทางเคมีแนวระนาบแบบจลภาค
- วิธีการกัดช่องเปิดเป็นรูปคล้ายแก้วไวน์สำหรับการเชื่อมต่อทางไฟฟ้าในวงจรรวม
- ตัวตรวจวัดอุณหภูมิ (Temperature Sensor)

Petty Patent

1 อุปกรณ์ทดสอบคุณสมบัติวัสดุกึ่งตัวนำเชิงอินทรีย์ (Test apparatus for organic semiconductor material)
เครื่องมือวัด-บันทึกและแจ้งเตือนกรณีเครื่องยนต์มีความร้อนผิดปกติ
2012 เครื่องมือวัดและแจ้งเตือนกรณีเครื่องยนต์มีความร้อนผิดปกติ