

AOC Singapore Offers Complimentary Distance Learning Course to Members During the COVID-19 Lockdown Phase

By LEE Kar Heng, AOC Singapore Chapter President

FMCW RADAR DESIGN USING KEYSIGHT SYSTEMVUE
A distance learning course designed, developed and delivered by TBSS with support from Keysight Technologies

Learn from radar practitioners	Learn from Keysight Expert	Learn from certified trainer
3 to 6 hours per week	4 to 8 weeks to complete	15 May 2020 14 July 2020

Register for the affiliated webinar: Radar, EW and Satellite using PathWave System Design (SystemVue) eSeminar on Friday, May 15, 2020 at 10:00 am Singapore Time (Singapore, GMT+08:00)
to take this course at USD180.00 or SGD250.00

90-day SystemVue Trial License	Keysight/TBSS/AOC certificate	Learn anywhere, anytime
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Contact: lkarheng@gmail.com
Facebook: TBSS Distance Learning

Course Brochure

BACKGROUND

Due to COVID-19, Singapore went into a lockdown phase from April 7 – June 1. The lock down was then partially released, and the likelihood to have large-group meetings was impossible, which would affect the regular AOC Singapore meetups. To engage the AOC Singapore members during the lockdown period, AOC Singapore worked with a local professional technical training service to offer a distance learning course, “FMCW Radar Design Using SystemVue,” which was offered to the public for a fee and fully sponsored for AOC Singapore Chapter members.

THE COURSE

FMCW radars are largely used in both military and commercial, particularly in automotive. This causes a heavily occupied RF spectrum, and it creates a scenario of electronic warfare in an urban environment. Both radar and electronic warfare specialists will benefit from insight into the design of such radars, as these radars are challenged with intentional and unintentional jamming and/or attacks.

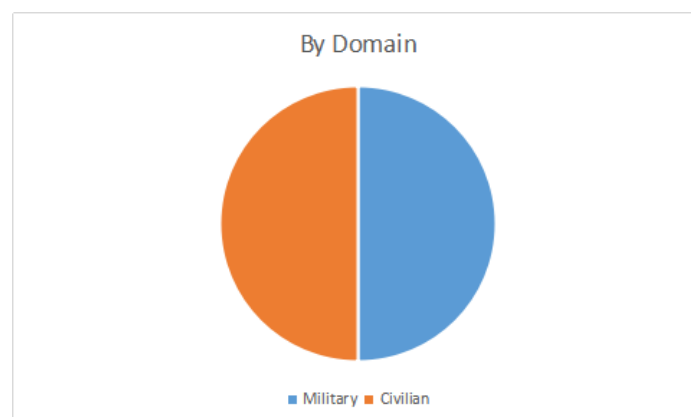
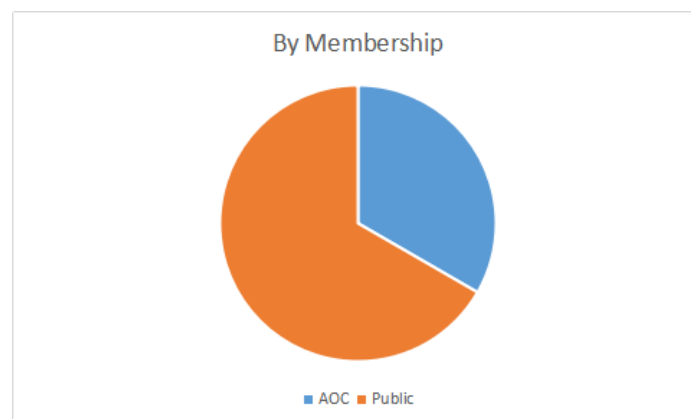
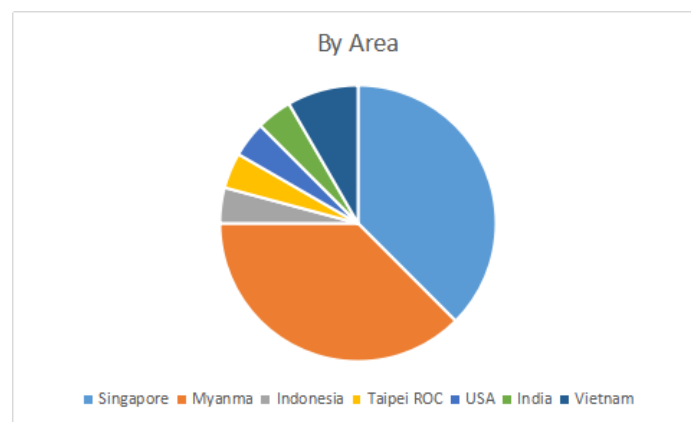
This course is hence beneficial to AOC members who work with FMCW technology, with the following outline:

1. Explain the radar working principles
2. Draw a FMCW radar block diagram and explain all the blocks
3. Solve radar equation
4. Describe the antenna parameters

5. List the antenna types used in radars
6. Describe antenna feeding
7. Explain the design of FMCW radar
8. Understand radar signal in FMCW radars
9. Explain the transmitter circuit
10. Explain the receiver circuit
11. Carry out simulation

PARTICIPATION AND SUPPORT

This course was offered to the public, AOC Singapore members and AOC International members. It was attended by 24 participants from different countries, illustrated by the following breakdowns:



This course was strongly supported by Keysight Technologies, Singapore, who provided a 90-day trial license of the professional electronic design automation tool, SystemVue. Participants used this software to simulate the radar design to further understand the topics.

AOC Singapore members received complimentary access to the course while AOC international members attended the course at a 50% reduced rate. Attendees from the general public paid the full fee.

BENEFITS

Offered on a distance learning platform, this course allows AOC Singapore to remain in contact with members and continue engaging members in professional activities. It has also helped in equipping some members with FMCW radar design issues. This will benefit the industry in terms of having more knowledgeable practitioners.

With participation from regional countries, it opens the door to establishing more local chapters in the Asia-Pacific region (International Region II).

CONCLUSION

AOC, together with TBSS and Keysight Technologies, supported the course, which was offered to AOC members and the public. This course attracted 24 participants who devoted their time to developing additional engineering skills and knowledge. This is in line with AOC Singapore's desire in the support of member professional development.

