

Duration: 08:30 - 17:50

Room: Kiev

WS-02

Advances in GaN Device Technology for Millimeter-Wave Applications

Organisers:

Kazuya Yamamoto, Mitsubishi Electric Corp, Japan

Kenjiro Nishikawa, Kagoshima University, Japan

Abstract

Millimetre-wave and sub-millimetre-wave applications, such as satellite communications, radar systems, high-speed wireless communications, and newly developed mobile 5G system, have demanded high power and high efficiency devices. GaN device is still a main player for the above frequencies and applications. This workshop will introduce the recent progress in GaN technology in millimetre-wave applications. This workshop will provide the bridge between a system/circuit designer and a device engineer. The workshop will start discussing the required performances for recent millimetre-wave applications including 5G system. After that, the workshop will cover the recent developed GaN devices for millimetre-wave and sub-millimetre-wave operation, device simulation, device modelling, and PA design techniques. This proposed workshop is endorsed by IEEE MTT-S TC-7.

Programme

08:30 – 08:40 Opening and Welcome

08:40 - 09:20 5G and Power Amplifiers

Hiroshi Okazaki, NTT DOCOMO INC, Japan

09:20 - 10:00 Millimeter Wave GaN Device Technology and Applications

Nicholas J. Koliass, Raytheon, USA

10:10 - 10:50 Break

10:50 - 11:30 Challenges and Opportunities for the Advancement of Millimeter-Wave GaN Transistors

Keisuke Shinohara, Teledyn Scientific Company, USA

11:30 - 12:10 Physics-Based Methods for High Frequency GaN HEMT Simulation

Matt Grupen, Air Force Research Laboratory, USA

12:30 - 13:50 Break

13:50 - 14:30 TBD

Didier Floriot, UMS, Germany

14:30 - 15:10 GaN HEMT Technology for W-Band High Power Amplifiers

Masaru Satoh, Fujitsu Labs, Japan

15:30 - 16:10 Break

16:10 - 16:50 Broadband Envelope Tracking Systems

Olof Bengtsson, FBH-Berlin, Germany

16:50 - 17:30 High SHF GaN/GaAs Devices for 5G and Beyond

Shintaro Shinjo, Mitsubishi Electric Corp., Japan

17:30 - 18:10 100nm and 60nm GaN/Si MMICs for 5G Mobile Telecommunications

Marco Rocchi, OMMIC SAS, France