

2007 Korea-Japan MicroWave Conference (KJMW2007)

Advance Program

Naha, Okinawa, Japan
15-16 November, 2007

Organized and co-sponsored by
IEEE MTT-S Japan Chapter
IEEE MTT-S Korea Chapter
The Technical Group on Microwave Engineering and
the Electronics Society of the Institute of Electronics, Information and
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Message from the Conference Chair

Welcome to the 2007 Korea-Japan Microwave Conference in Okinawa!

Over a thousand kilometer far from Seoul and Tokyo, Okinawa Islands is located at a junction of the Black Current and the Jet Stream which creates favored nature: beautiful coral reefs, flowers, fruits, etc. Okinawa people “Uchinanchu” have unique customs and prosperous culture incomparably to the other prefectures in Japan. Korea, Japan and other countries have further different customs and cultures, which are probably reflected on the way of thinking. Please find such differences and discuss in the Conference. Exchange of different views, I believe, will create new progress of microwave technology.

This Conference is originated in Korea-Japan Microwave Workshops, the first in 2000, Seoul, the second in 2002, Yokosuka, and the third in 2005, Busan. The name has changed from Workshop to Conference and the number of accepted papers almost doubled. We hope you will enjoy the Conference and the variety of Okinawa.

Prof. Osami Ishida
Conference Chair

Department of Information and Communication Systems Engineering
Okinawa National College of Technology
Nago

General Information

Official Language: English

Registration fee:

Member (IEEE, IEICE, KEES) 12,000 yen

Non-Member 15,000 yen

Student 5,000 yen

The registration fee covers admission of all sessions of the conference and a copy of the Conference Proceedings and CD-ROM. The fee should be paid on Japanese Yen or U. S. Dollar at a conference registration desk. Any credit cards are not acceptable. Please download and fill in all the necessary items on Registration Form, and send it to KJMW 2007 Steering Committee.

Conference Proceedings & CD-ROM: will be provided at the registration desk.

How to access Okinawa Gender Equality Center "Tiruru" from Naha Airport:

KJMW2007 Local Arrangement Committee recommends you take a taxi from Naha airport. It will cost between 1,000 and 1,500 yen that depends on traffic condition. If the driver doesn't know "Tiruru," just say "U-n-te-n-me-n-kyo Shi-ke-n-jo-u," or "Paciffic Hotel." Both are very close to "Tiruru."

Available Currency:

The Yen is the national monetary unit. Other currencies (Dollars, Won, etc.) are not usually accepted.

Climate:

In November the average maximum daytime temperature in Naha is a warm 24°C (76°F), with little chance of discomfort from heat and humidity, while the average minimum night-time temperature is a comfortable 19°C (66°F).

On average 128 mm (5 inches) of rainfall is expected in Naha during November with rain generally falling on 19 days of the month. There are usually 4 hours of bright sunshine each day, which represents 36% of daylight hours.

During November around midday under clear sky conditions the UV Index in Naha is High (UV Index 6). Average sea temperature around Naha in November is a comfortable 25°C (78°F).
(Source: weather4travel.com)

KJMW2007 Session Schedule

November 15th (Thursday)

	Room 1- 2F	Room 2-3F
13:00-13:10	Opening	
13:10-14:40	Session 1 (6) - Amplifier Techniques -	Session 2 (6) - Field Theory and Simulations -
14:40-14:55	Coffee Break	Coffee Break
14:55-16:10	Session 3 (4) - Frequency Conversion -	Session 4 (5) - Advanced Antennas -
16:10-16:25	Coffee Break	Coffee Break
16:25-17:25	Session 5 (4) - Propagation and Absorbers -	Session 6 (4) - Advanced Filters -
18:30-21:00	Social Meeting (Pacific Hotel Okinawa)	

November 16th (Friday)

	Room 1-2F
9:30-10:45	Session 7 (4) - Signal/Power Transmission and Processing -
10:45-11:00	Coffee Break
11:00-12:15	Session 8 (5) - Signal Generation and Noise Reduction Techniques -
12:15-14:00	Lunch
14:00-15:30	Session 9 (6) - Metamaterials and their Applications -
15:30-15:45	Coffee Break
15:45-17:00	Session 10 (5) - Millimeter-Wave and Terahertz-Wave Technologies -
17:00-17:10	Closing
17:30-18:30	KJMW Committee Mtg.

Session 1: Amplifier Techniques

Thursday, November 15th 2007, 13:10-14:40

Room 1-2F

Chairpersons: Sungtek Kahng, University of Incheon

Hiroshi Okazaki, NTT DoCoMo

- TH01-1 A Basic Study on EER Transmitter with Burst-width Envelope Modulation Based on Triangle-wave PWM**
Toshio Kodera, Nobuhiko Ando, and Makoto Taromaru
ATR
- TH01-2 A 300-400MHz Band High Efficiency Power Amplifier with Intrinsic Harmonics Termination for SDR**
Noriyuki Mukai#, Hiroyuki Arai#, and Kazuhisa Yamanuchi*
#Yokohama National University, *Mitsubishi Electric Corp.
- TH01-3 0.5 W High Linearity Power Amplifier for Broadband Wireless (3.3 ~ 3.9 GHz)**
Chin-Leong Lim
Avago Technologies
- TH01-4 Compact, Planar and High-Power Spatial Power Combiner by Active Integrated Antenna Technique at 5.8 GHz**
Shigeo Kawasaki
Kyoto University
- TH01-5 A 25 GHz, 40 mW Fully-Integrated Power Amplifier in Standard 90 nm Si-MOS Technology**
Yoichi Kawano, Toshihide Suzuki, Yasuhiro Nakasha, Tatsuya Hirose, and Kazukiyo Joshin
Fujitsu Ltd.
- TH01-6 Consideration of Linearity in Cascode Low Noise Amplifiers using Double Derivative Superposition Method with a Tuned Inductor**
Chi-Wan Park and Jichai Jeong
Korea University

Session 2: Field Theory and Simulations

Thursday, November 15th 2007, 13:10-14:40

Room 2-3F

Chairpersons: In Sik Choi, Hannam University

Mitsuo Taguchi, Nagasaki University

TH02-1 Time Domain Scheme Based on Positive Sampling Basis Associated with Coifman Scaling Function

Jae Jong Ryu, Wu Seong Lee, Yeon Kwan Moon, Han Chul Kim, and Hyun Chul Choi

Kyungpook National University

TH02-2 Numerical Analysis of Electromagnetic Field Distribution in Hollow Metallic Rectangular Parallelepiped with Roof

Mitsuo Taguchi#, Yasushi Hamada*, and Yuta Sanabe#

#Nagasaki University, *Maeda Motor Corp.

TH02-3 Calculation of Propagation Eigenmode for Stripline with Finite Thickness based on Equivalent Network along Horizontal or Vertical Direction

Kai Ding, Takaharu Hiraoka, and Jui-Pang Hsu

Kanagawa University

TH02-4 Calculation of Near-Field Radiation from Microstrip Using Green's Functions for Arbitrary Height

Sung Jin Kim, Kun Woo Kim, Kyung Hyun Oh, and Taek Kyung Lee

Korea Aerospace University

TH02-5 TE Scattering from Large Number of Grooves Using Green's Functions and Floquet Modes

Yong Heui Cho

Mokwon University

TH02-6 Modeling of Wave Penetration through Cylindrical Aperture Using an Iterative Method Based on Transverse Wave Concept

Tarek Bdour, Noemen Ammar, Taoufik Aguil, and Henri Baudrand

Sys'Com Laboratory in Engineering School of Tunis

Session 3: Frequency Conversion

Thursday, November 15th 2007, 14:55-16:10

Room 1-2F

Chairpersons: Kenjiro Nishikawa, NTT

Chul Hun Seo, Soongsil University

TH03-1 [**A 5.2 GHz Linearized SiGe Quadrature Modulator Using Current Feedback from Output Buffer**](#)

Fumiki Onoma, Koji Tsutsumi, and Noriharu Suematsu

Mitsubishi Electric Corp.

TH03-2 [**Highly Linear 1.765 GHz Downconversion Double Balanced Mixer using InGaP/ HBT Technology for AF-ICS Application**](#)

Won Jun Choi, Jae Wook Ko, and Nam Youg Kim

Kwangwoon University

TH03-3 [**Analysis of Nonlinear Distortion in Direct Sampling Mixers**](#)

Masaki Ishii and Kiyomichi Araki

Tokyo Institute of Technology

TH03-4 [**Noise Analysis of Switched Capacitor Networks in Direct Sampling Mixers**](#)

Takafumi Nasu and Kiyomichi Araki

Tokyo Institute of Technology

Session 4: Advanced Antennas

Thursday, November 15th 2007, 14:55-16:10

Room 2-3F

Chairpersons: Takashi Ohira, Toyohashi Institute of Technology

Dong Chul Park, Chungnam National University

TH04-1 Q Evaluation of Small Insulated Antennas in a Lossy Medium and Practical Radiation Efficiency Estimation

Jae Chun Lee and Sang Wook Nam

Seoul National University

TH04-2 Compact Meander Slot Antenna with Open-ends

E. K. Kim#, H. H. Jung#, Y. S. Lee#, and Y. K. Cho*

#Kumoh National Institute of Technology, *Kyungpook National University

TH04-3 Design of the Tree-Shaped UWB Antenna Using Fractal Concept

Hyo Woo Kim, Hee Soon An, Jung Nam Lee, Jong Kweon Park, and Jin Suk Kim

Hanbat National University

TH04-4 The Realization of Wideband Antenna Using Fractal of Crosswise Shape

Kun Woo Kim, Ki Hyoung Bae, Kyung Hyun Oh, and Hyun Sik Tae

Samsung Thales Co.

TH04-5 Internal Broadband Folded Monopole Antenna for DTV Laptop Application

Seng Gil Jeon, Kwang Woo Ryu, Young Ki Lee, and Jae Hoon Choi

Hanyang University

Session 5: Propagation and Absorbers

Thursday, November 15th 2007, 16:25-17:25

Room 1-2F

Chairpersons: Taek Kyung Lee, Korea Aerospace University

Hitoshi Shimasaki, Kyoto Institute of Technology

TH05-1 Development of the EM Wave Absorber for ETC System Using MnZn-ferrite and Carbon

Young Man Song, Dong Il Kim, Chang Mook Choi, and Dae Hee Lee

Korea Maritime University

TH05-2 Study on the Empirical Prediction of 1-min Rain Rate Distribution from Various Integration Time Date

Myoung Won Jung#, Il Tak Han#, Moon Young Choi#, Joo Hwan Lee*, Jeong Ki Pack#

#Chungnam National University, *ETRI

TH05-3 Measurement of Time-Varying Rainfall Rate in Surabaya and Estimation of Attenuation Statistics by Synthetic Storm Technique

Gamantyo Hendratoro#, Muriani*, Didik Cahyono#, Achmad Mauludiyanto#, and Akira Matsushima\$

#Institut Teknologi Sepuluh Nopember, *Universitas Sains dan Teknologi Jayapura

\$Kumamoto University

TH05-4 Prediction of Line-of-sight Microwave Signal Fading through Meterological Parameters

Sukla Duttagupta

Institute of Radio Physics & Electronics

Session 6: Advanced Filters

Thursday, November 15th 2007, 16:25-17:25

Room 2-3F

Chairpersons: Yong Heui Cho, Mokwon University

Hiromitsu Uchida, Mitsubishi Electric Corp.

TH06-1 Design and Fabrication of a New Dual-Mode Microstrip Ring Resonator Bandpass Filter Using Micromachining Technology

Sung Soo Choi and Dong Chul Park

Chungnam National University

TH06-2 Novel Vertical Split Ring Resonator Fabricated in LTCC

Masaya Tamura#, Toshio Ishizaki#, Michael Hoefft*, and Hidekazu Tamai#

#Panasonic Electronic Devices Co.Ltd., *Panasonic Electronic Devices Europe GmbH

TH06-3 Compact 2.1/3.6 GHz Planar Bandpass Filter

Yuta Takagi, Kei Satoh, Kunihiro Kawai, Daisuke Koizumi, and Shoichi Narahashi

NTT DoCoMo Inc.

TH06-4 Cross-coupled Compline Bandpass Filter Using Active Capacitance Circuit

Han Ul Moon, Youg Ho Cho, Seung Un Choi, and Sang Won Yun

Songang University

Session 7: Signal/Power Transmission and Processing

Friday, November 16th 2007, 9:30-10:45

Room 1-2F

Chairpersons: Shigeo Kawasaki, Kyoto University

Jeong Ki Park, Chungnam National University

FR07-1 Receiving Coil Analysis for Wireless Power Transmission with Inductive Coupling

Youn Myoung Gimm^{#*}, Jae Sung Yoo[#], Ho Sang Yoo^{*}, Mija Kim^{*}

[#]Dankook University, ^{*}EMF Safety

FR07-2 Resistively-Terminated Via-Stubs for Signal Integrity Improvement in the Semiconductor Test Board

Sung Ho Joo, DonYeop Kim, Sang Hoon Lee, Se Jang Oh, Ki Sang Kang, and Hai Youg Lee
Ajou University

FR07-3 Malfunction and Destruction Analysis of CMOS IC by Intentional High Power Microwave

Joo Il Hong, Sun Mook Hwang, Chang Su Huh, Uk Youl Huh, and Jin Soo CHoi
Inha University

FR07-4 Feature Extraction of Radar Targets using Evolutionary Adaptive Wavelet Transform

In Sik Choi[#] and Hyo Tae Kim^{*}

[#]Hannam University, ^{*}Pohang University

Session 8: Signal Generation and Noise Reduction Techniques

Friday, November 16th 2007, 11:00-12:30

Room 1-2F

Chairpersons: Youn Myoung Gimm, Dankook University

Tsuneo Tokumitsu, Eudyna Device

FR08-1 A Push-Push Oscillator Using Coupled Microstrip Lines in Common Feedback Loop

Takayuki Tanaka, Mitsuhiro Ueyama, and Masayoshi Aikawa

Saga University

FR08-2 A Comparative Analysis of two Differential Colpitts VCOs in InGaP/GaAs HBT Technology

Cheng Qian, Bhanu Shrestha, Ho San Na, and Nam Youg Kim

Kwangwoon University

FR08-3 Broadband VCO Using Electronically Controlled Metamaterial Transmission Line Based on Varactor-Loaded Split-Ring Resonator

Jae Won Choi and Chul Hun Seo

Soongsil University

FR08-4 Miniaturized Multilayer Inductors on GaAs Three-dimensional MMIC

Takana Kaho#, Motoharu Sasaki*, Yo Yamaguchi#, Kenjiro Nishikawa#, and Kazuhiro Uehara#

#NTT Corporation, *Kyushu University

FR08-5 A Peak-Voltage-Control Circuits and Its Application to Noise Reduction from High Speed RZ Signals

Yuta Tsubouchi, Rennichi Morimoto, Masahiro Akiyama, and Saeko Oshiba

Kyoto Institute of Technology

Session 9: Metamaterials and their Applications

Friday, November 16th 2007, 14:00-15:30

Room 1-2F

Chairpersons: Young Soon Lee, Kumoh Natl. Institute of Tech.

Atsushi Sanada, Yamaguchi University

FR09-1 A Miniaturized Band Rejection Filter with New Compact Photonic Band-Gap (PBG) Cell Employing Comb-type Microstrip Line

Young Bae Park, Han Nah Joh, Se Ho Kim, and Young Yun

Korea Maritime University

FR09-2 An Elliptic-Function Bandpass Filter Employing Left-Handed Operations of an Inter-Digital Coupled Line

Hirimitsu Uchida, Naofumi Yoneda, Yoshihiko Konishi, and Shigeru Makino

Mitsubishi Electric Corp.

FR09-3 Left-Handedness based Bandpass Filter Design for RFID UHF-Band applications

Sungtek Kahng and Jeong Ho Ju

University of Incheon

FR09-4 A Left-Handed Transmission Line Using a Magnetic Symmetrical Plane

Hiroshi Kubo, Hidetaka Kuwahara, and Atsushi Sanada

Yamaguchi University

FR09-5 Basic RF Characteristics of the Microstrip Line Employing Periodically Perforated Ground Metal on MMIC

Young Yun, Han Hah Joh, Young Bae Park, Se Ho Kim, Hae Cheon Kim, Woo Jin Chang,

Hong Gu Ji, and Ho Kyun Ahn

Korea Maritime University

FR09-6 Very Thin and Flat Lens Antenna Made of Artificial Dielectrics

Ikuo Awai, Seiji Kida, and Osamu Mizue

Ryukoku University

Session 10: Millimeter-Wave and Terahertz-Wave Technologies

Friday, November 16th 2007, 15:45-17:00

Room 1-2F

Chairpersons: Jounsuck Bae, Nagoya Institute of Technology

Seog-Tae Han, KASI

FR10-1 Active MMW Imaging System using the Frequency-Encoding Technique

Thomas Deham, Hirokazu Komada, Toru Iwasaki, and Takao Kuki

NHK (Japan Broadcasting Corporation) Science and Technical Research Laboratories

FR10-2 L-Shaped Vertical Strip Line as a Primary Radiator for 2-Dimensional Parabolic Reflector at 60 GHz

Makoto Okiyokota and Futoshi Kuroki

Kure National College of Technology

FR10-3 High Permittivity Tape Transmission Line Embedded in Low Dielectric Support at Millimeter-Wave Frequencies

Ryo-ji Tamaru and Futoshi Kuroki

Kure National College of Technology

FR10-4 Transmission Properties of an Optically Excited Finline Used for a Doppler Frequency Converter

Jounsuck Bae, Yuan Jun Xian, and Sho Yamada

Nagoya Institute of Technology

FR10-5 Plasma Effects in HEMT-like Structures: Equivalent Circuit Model and Simulation

Irina Khmyrova

University of Aizu

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Okinawa Gender Equality Center
"Tiruru"
Naha, Okinawa, Japan

