Seminar on Climatic Reliability of Electronics:

Global Challenges and Perspectives

5-6 March 2020

Technical University of Denmark

Teknologisk Videndeling
ATV-SEMAPP.DK

Calcorr

EFC
EUROPEAN FEDERATION OF CORROSION

FCPE

PROGRAMME
Thursday 5 March 2020

08:30-09:00	Registration and breakfast
	Session 1 – Humidity interaction with PCBA and failure mechanisms
09:00-09:30	Overview of the seminar, and some perspectives on the humidity effects on electronics *Rajan Ambat, CELCORR, DTU*
09:30-10:00	Corrosion behavior of printed electronics with silver traces *Laura Frisk, Trelic*
10:00-10:30	Corrosion investigations on Bi and Mn micro-alloyed lead-free SAC alloys *Bálint Medgyes, BME*
10:30-11:00	Break
11:00-11:30	Electrochemical corrosion and thermal effects at voltages ≥ 12 V in electronics systems *Nicolas Mayer, Automotive Electronics Robert Bosch*
11:30-12:00	Carbonization of PCB material in relation to thermal incidents *Lutz Müller, Automotive Electronics Robert Bosch*
12:00-13:00	Lunch
	Session 2 – Importance of process and service related residues
13:00-13:30	Interaction of PCBA Materials and flux systems: Reliability assement *Daniel Buckland, Henkel Ltd.*

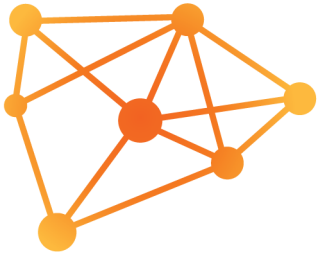
13:30-14:00	Does the measurement of ionic contamination predict reliability? Realization of IPC-J-STD001G-Am1 in the automotive Industry *Lothar Henneken, Automotive Electronics Robert Bosch*
14:00-14:30	A validation tool for SMT-flux residues by infra-red-spectroscopy based multi variate data analysis *Theresia Richter, Automotive Electronics Robert Bosch*
14:30-15:00	Chemical composition, evolution, deliquescence and conductivity of aerosol deposited on the insulators of the Italian national power lines *Luca Ferrero, University of Milan Biccoca*
15:00-15:30	Break
	Session 3 – Humidity and reliability of high power/low power systems and components
15:30-16:00	Studies on sprayed metal (schoopage) as humidity barrier in film capacitor *Lucia Cabo, TDK Electronics Components*
16:00-16:30	Beyond humidity testing: Mixed Flowing Gas Tests on Power Electronics *Tommi Kärkkäinen, LUT University in Lappeenranta*
16:30-17:00	Humidity-induced failures in state-of-the-art power semiconductor devices *Christian Zorn, University of Bremen*

PROGRAMME
Friday 6 March 2020

08:15-08:30	Arrival and breakfast
	Session 3 (continued) – Humidity and reliability of high power/low power systems and components
08:30-09:00	Comparison of PCBs and DBCs concerning ECM and formation of dendrites *Chen Weiyi, Fraunhofer Institute for Integrated Systems and Device Technology IISB*
09:00-09:30	Field failures of electronics and power capacitors in railway application: Breakdowns related to environmental conditions and proposed countermeasures *Roland Schmid, Bombardier Transportation*
09:30-10:00	Study of the degradation of different thermoelectric modules at Teide volcano *Leyre Catalán Ros, Universidad Pública de Navarra*
10:00-10:30	Challenges and requirements for reliable sinter interconnections *Markus Meier, Zestron*
10:30-11:00	Break
	Session 4 – Humidity robustness testing, characterization methods and standards
11:00-11:30	Alternative Detection methods for Humidity Impacts on PCBAs *Simone Lauser, Automotive Electronics Robert Bosch*

11.30-12:00	Complementary EIS / FTIR study of the degradation of adhesives in electronic packaging *Michael Schneider, Fraunhofer-Institut für Keramische Technologien und Systeme IKTS*
12:00-13:00	Lunch
13:00-13:30	Component Specific Test Boards and Electrical Test Methods for Assessing the Climatic Reliability of PCBAs *Mike Bixenman, Kyzen*
13:30-14:00	Reliability standards for cleanliness and coating: Protecting the future *Emma Hudson, GEN3 Systems*
	Session 5 – Extrinsic methods for prevention of humidity effects
14:00-14:30	Mission profiling and corrosion classification: importance in relation to humidity effects on electronics *Morten Jellesen, CELCORR, DTU*
14:30-15:00	Break
15:00-15:30	Ultra-thin Fluoropolymer Coating: Performance and its use in Electronics *Mélanie Mathon, Inventec Performance Chemicals*
15:30-16:00	Moisture absorption by polymer materials and impact on enclosure design *Helene Conseil/Sankhya Mohanty, CELCORR, DTU*
16:00-16:10	Conclusion and summary

NOTES



Teknologisk Videndeling

ATV-SEMAPP.DK

SEMINAR VENUE
Technical University of Denmark
Anker Engelundsvej 1
2800 Lyngby
Denmark

This seminar is organized by Centre for Electronic Corrosion (CELCORR), DTU and European Federation of Corrosion, Working Party 23 on “Corrosion Reliability of Electronics", EFC event No. 457

www.celcorr.com

Teknologisk Videndeling
ATV-SEMAPP.DK

Celcorr

EFC
EUROPEAN FEDERATION OF CORROSION

ECPE