



Publications within the project Reliable Wireless Machine-to-Machine Communications in Electromagnetic Disturbed Industrial Environments”

Rev. E [2010-02-22]

Journal publications

[J1] Kia Wiklundh, Peter Stenumgaard, Hugo Tullberg, “Channel Capacity of Middleton’s Class A Interference”, *IET Electronic Letters*, vol. 45, No. 24, November 2009.

[J2] Karina Fors, Kia Wiklundh, Peter Stenumgaard “An improved Impulsiveness Correction Factor for Control of Electromagnetic Interference in Dynamic Spectrum Access Applications”, *IET Communications*, 2010, Vol. 4, Iss. 4, pp. 437–442.

Conference publications

[C1] C Karlsson, P Stenumgaard, K Wiklundh, “Intersystem Interference between Middleton’s Class A Noise and Bluetooth” *Proceedings of Radiovetenskaplig konferens RVK 2008*, Växjö, June 10-12, 2008

[C9] Carl Karlsson, Per Ångskog, Javier Ferrer Coll, José Chilo, Peter Stenumgaard, “Outdoor APD Measurements in Industrial Environments” *Proceedings of RFMTTC09*, Oct 6-7, Gävle 2009.

[C2] Peter Stenumgaard, José Chilo, “Wireless Machine-to-Machine Communications in Industrial Environments”, *Proceedings of Electronic Environment 2009*, Stockholm, pp. 72-75, March 2009.

[C10] Javier Ferrer-Coll, José Chilo, Peter Stenumgaard “Outdoor APD Measurements in Industrial Environments”, *Proc. AMTA 2009*, Salt Lake city, November 2009.

[C3] Jose Chilo, Carl Karlsson, Per Ångskog, Peter Stenumgaard, Carl Elofsson “Characterizing Electromagnetic Interference in Vicinity to a Railway Freight Train” *Proc. IEEE Int. Symp. on EMC/EMECO*, Saint-Petersburg, pp. 23-26, June 2009.

[C11] Per Ångskog, Carl Karlsson, Javier Ferrer Coll, José Chilo, Peter Stenumgaard. “Sources of Disturbances on Wireless Communication in Industrial and Factory Environments, 2010 Asia-Pacific Symposium on Electromagnetic Compatibility & Technical Exhibition on EMC RF/Microwave Measurement & Instrumentation 12 - 16 April, 2010, Beijing, China

[C4] Jose Chilo, Carl Karlsson, Per Ångskog, Peter Stenumgaard, “APD Measurements for Characterization and Evaluation of Radio Interference in Steel Mill”, *Proc. IEEE Int. Symp. on EMC*, Kyoto, vol. 2, pp. 625-628, July 2009

[C12] Javier Ferrer Coll, Juan José Choquehuanca, José Chilo, Peter Stenumgaard, “Statistical Characterization of the Electromagnetic Environment in a Hospital”, *2010 Asia-Pacific Symposium on Electromagnetic Compatibility & Technical Exhibition on EMC RF/Microwave Measurement & Instrumentation 12 - 16 April, 2010, Beijing, China.*

[C5] Jose Chilo, Carl Karlsson, Per Ångskog, Peter Stenumgaard, “EMI Disruptive Effects on Wireless Industrial Communication Systems in an Paper Plant”, *Proc. IEEE EMC Symp. Austin-Texas*, vol. 3, pp. 221-224, August 2009.

[C13] Javier Ferrer Coll, Per Ångskog, Carl Karlsson, José Chilo, Peter Stenumgaard, “Simulation and Measurement of Electromagnetic Radiation Absorption in a Finished-product Warehouse”, *IEEE International Symposium On Electromagnetic Compatibility July 25-30, 2010, Convention Center Fort Lauderdale, Florida USA*

[C6] Jose Chilo, Carl Karlsson, Per Ångskog, Peter Stenumgaard, “Impulsive Noise Measurement Methodologies for APD Determination in M2M Environments”, *Proc. IEEE EMC Symp. Austin-Texas*, vol. 3, pp. 151-154, August 2009.

[C7] P Stenumgaard, “Vulnerability of Critical Wireless Communications for Safety & Security”, *Euro Atlantic Stakeholders Conference*, Sept 1-2, 2009, Stockholm.

[C14] J. Chilo and P. Stenumgaard, “Vulnerability of Radio Technologies Used in Wireless Industry Automation”, *Proceedings of Gigahertz 2010, Lund.*

[C8] Javier Ferrer Coll, Juan José Choquehuanca, José Chilo, Peter Stenumgaard, “Preliminary Measurements of the Electromagnetic Interference in a Hospital Environment” *Proceedings of RFMTTC09*, Oct 6-7, Gävle 2009.

Research reports

[R1] Peter Stenumgaard, Jose Chilo, Carl Karlsson, Per Ångskog, “Reliable Wireless Machine-to-Machine Communications in Electromagnetic Disturbed Industrial Environments-final report”, University of Gävle 51-265/08, January 2009.

Machine Communications in Electromagnetic Disturbed Industrial Environments”, progress report 2009 Högsolan i Gävle reg. no. XX

[R2] Peter Stenumgaard, José Chilo, Per Ångskog, Carl Karlsson, Javier Ferrer, “Reliable Wireless Machine-to-



Diploma works

[D1] Carl Karlsson, "Impulsive Noise Modeling and Coexistence Study of IEEE 802.11 and Bluetooth", University of Gävle 2008.

[D2] Felix Perez, Javier Ferrer-Coll, "Development of an EMI Measurement System: Performance Analysis of Bluetooth Communication under Noise Environment", University of Gävle 2008.

Popular scientific publications

[P1] Peter Stenumgaard, "Trådlöshet ger ökad sårbarhet", Svenska Dagbladet 24 juni, 2008.

[P3] Peter Stenumgaard, "GPS-övervakning öppnar för ökad sårbarhet", Electronic Environment no 1, 2009.

[P2] Peter Stenumgaard, "Kriminella utnyttjar störcänslig trådlös teknik", Electronic Environment no 1, 2009.

[P4] Peter Stenumgaard, "Ökad radioanvändning i industrin avslöjar EMC-problem", Electronic Environment no 1, 2010.

Workshops

[W1] Peter Stenumgaard "Reliable Wireless Machine-to-Machine Communications in Electromagnetic Disturbed Industrial Environments" Partner Workshop arranged by the Center for RF Measurement Technology, Gävle May 7th 2008.

[W3] Carl Karlsson, "APD Measurements for Characterization and Evaluation of Radio Interference in Steel Mill", NICT Workshop on APD, July 27, 2009 Tokyo

[W2] José Chilo, "Reliable Wireless Machine-to-Machine Communications in Electromagnetic Disturbed Industrial Environments" ETSI-workshop *Wireless Factory*, Budapest December 2008.

Publications about the project

[A1] "Vinnova stödjer forskning vid Radiocentrum i Gävle om trådlösa system" Electronic Environment no 2, 2008.

[A4] Peter Stenumgaard, Mats Ahlstedt, "Forskning ska ge koll på störcänslighet", Process Nordic No 3, March 2009.

[A2] 'Forskningsprojekt skall ge säkrare M2M-kommunikation', Elektronik i Norden no 9, 2008.

[A5] "Samarbete om nya EMC-mätmetoder", Elektronik i Norden no 11, September 4th, 2009.

[A3] 'Trådlöst för en säkrare industri - svenskar tar fram störningsfri teknik', METRO TEKNIK 30 april - - 6 maj 2008.

[A6] "Radiocentrum Gävle inleder samarbete med NICT i Japan". Electronic Environment no 3, 2009.

Presentations in TV and radio

[TR1] Presentation in the TV-program "Vetenskapslandet" in SVT Kunskapskanalen at November 6th 2008 under the headline "Trådlösa system"
Also sent May 23rd and May 27th 2009.

[TR2] Radio Gävleborg 2008-03-31 under the headline 'Stopp för elektroniska attacker'.

Awards

[Aw1] Carl Karlsson, "Impulsive Noise Modeling and Coexistence Study of IEEE 802.11 and Bluetooth", University of Gävle 2008

[Aw2] Felix Perez, Javier Ferrer-Coll, "Development of an EMI Measurement System: Performance Analysis of Bluetooth Communication under Noise Environment", University of Gävle 2008.

C Karlsson, P Stenumgaard, K Wiklundh, "Intersystem Interference between Middle-tons Class A Noise and Bluetooth" Proceedings of Radiovetenskaplig konferens RVK 2008, Växjö, June 10-12, 2008

Awarded by Stiftelsen Göranssonska fonden 2008

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