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Dear Mr. Liikanen,

Contribution from DRM Consortium to European Commission Workshop on Interference Emissions from Power-Line Communications Networks

Summary

DRM is the new digital world standard for broadcasting in all the bands below 30 MHz. The DRM Consortium is concerned that interference from PLC networks could wreck this promising radio technology (which has received EU support), and stifle the voice of Europe around the world together with commercial opportunities within Europe.

Digital Radio Mondiale — what is it?

The Consortium

The Digital Radio Mondiale™ (DRM™) Consortium was formed in 1998 when a small group of pioneering broadcasters and manufacturers joined forces to create a universal, digital system (also called DRM) for the AM broadcasting bands below 30 MHz — short-wave, medium-wave and long-wave. Since then, DRM has expanded into an international consortium of 83 broadcasters, manufacturers, network operators, research institutions, broadcasting unions and regulatory bodies representing 29 countries.

The Standard

DRM, by the voluntary co-operation of its members, has developed the world's only non-proprietary, universally standardized, digital system for short-wave, medium-wave/AM and long-wave that can use existing frequencies and bandwidth across the globe. With clear, near-FM quality sound and excellent reception that offers a dramatic improvement over analogue, DRM will revitalize radio in markets worldwide. The system was officially launched in June 2003 in Geneva.

The standard has achieved world-wide recognition:

— ITU-R Recommendation BS1514-1 (Digital Sound Broadcasting Below 30 MHz).

This states that DRM is an ITU-R Recommendation for all the broadcasting bands

DIGITAL radio mondiale

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spanning 150 kHz to 30 MHz. No other digital radio system has received such broad recommendation (including short-wave, as well as medium-wave/AM and long-wave) by the ITU (International Telecommunications Union).

– **International Electrotechnical Committee (IEC) International Standard, IEC 62272-1 Ed. 1: Digital Radio Mondiale (DRM) — Part 1: System Specification.**

– **European Telecommunications Standards Institute (ETSI) Standard ES 201 980 V1.2.2 (2003-04): Digital Radio Mondiale (DRM); System Specification**

Opportunities offered by DRM

DRM will enable all types of broadcasters (local/regional/national/international, public/commercial) to exploit the useful propagation characteristics of the frequencies allocated by international agreement to broadcasting below 30 MHz to deliver radio programming which is of good 'FM-like' audio quality. This represents a substantial improvement over what is possible using the Amplitude Modulation (AM) used in these bands since broadcasting began.

There are clear business opportunities for broadcasters, network operators, receiver manufacturers and manufacturers of transmitters and transmission infrastructure. That the members of DRM have voluntarily committed substantial resources to the development of DRM is clear testament to the importance they attach to this. Furthermore, the European Commission has itself made a contribution to various stages of the development through the projects NADIB, Radiate QoSAM and DiAM.

Concerns about interference and its proper regulation

DRM uses advanced digital modulation and coding techniques in order to deliver its target high-quality sound while operating within the very limited bandwidths (9 or 10 kHz) allocated to each channel in the bands below 30 MHz. This means that it is very efficient in its use of spectrum.

It is designed to operate with many existing transmitters (after simple conversion) and the different types of propagation that take place in the bands below 30 MHz. It requires however that noise and interference levels are of no greater magnitude than those currently expected and experienced by AM broadcasting.

The DRM Consortium notes with great concern that regulators are giving consideration to emission limits for telecommunications systems such as Power-Line Communications (PLC) that would offer no protection to DRM reception. Indeed the levels of emissions proposed to be permitted within listeners' homes are in many cases substantially greater than the strength of the broadcast signals! If this were to be allowed DRM broadcasting would not work and the investment by DRM (and the EC) in this world-class technology would be wasted.

The DRM Consortium draws attention to the fact that duly authorised broadcasting is a radio service entitled to protection under the terms of the ITU-R Radio Regulations (note in particular RR Article S15.12). Furthermore the European EMC Directive has the objective under its Article 4 of ensuring that "radio ... equipment" can "operate as intended".

The DRM Consortium therefore insists that these principles of protecting authorised radio services such as DRM broadcasting be rigorously applied, and that any emissions from PLC and other systems within the broadcasting bands be limited to a level permitting DRM reception to take place in listeners' homes as they have a right to expect.

The frequency bands below 30 MHz are a unique resource because they enable large areas to be covered efficiently with one or a few transmitting sites. This is an economic necessity for sparsely-populated or poor areas. These bands are also attractive for broadcasting from one country to another, whether for commercial broadcasting or for the government-sponsored international broadcasting that many European countries use to promote European culture and values effectively throughout the world. Note that the short-wave band uniquely makes it possible to reach countries where local rebroadcast facilities or Internet reception are not available.

More information about DRM

About DRM

The DRM system was developed, tested and standardized in a mere five years by the DRM Consortium. Founded in Guangzhou, China in 1998 and headquartered in Geneva, the consortium has expanded into a group of 83 broadcasters, network operators, equipment manufacturers, broadcasting unions, regulatory bodies and NGOs representing 29 countries.

As well as clear, near-FM quality sound and excellent reception, DRM offers broadcasters other advantages. DRM's universal standardization means that it is applicable worldwide. DRM can integrate audio with data and text, so additional content can be displayed on DRM-capable receivers to enhance the listening experience. DRM applications include fixed and portable receivers, car radios and PC-based receivers. And many existing transmitters can be easily modified to carry DRM signals as well as analogue.

DRM audio samples are available online at www.drm.org (English) and the DRM Koordinations - Komitee Deutschland web site (German) at www.drm-national.de.

DRM Members

Commercial Radio Australia (Australia); Nautel Ltd., Radio Canada International/CBC (Canada); Academy of Broadcasting Science of China (China); RIZ Transmitters (Croatia); HFCC (Czech Republic); ESPOL, HCJB World Radio (Ecuador); Digita Oy, Kymenlaakso Polytechnic (Finland); CCETT, Radio France, Radio France Internationale, TDF, Thales Broadcast & Multimedia (France); ADDX, APR, Atmel Germany GmbH, Coding Technologies GmbH, Deutsche Welle, DeutschlandRadio, DLM, Sender Europa 1, Fraunhofer IIS, Georg-Simon-Ohm - University of Applied Sciences Nuremberg, IZT, IRT, Medienanstalt Sachsen-Anhalt/Digitaler Rundfunk Sachsen-Anhalt, Micronas GmbH, Robert Bosch GmbH, Sony International Europe, SWR Südwestrundfunk, TELEFUNKEN SenderSysteme Berlin AG, T-Systems International GmbH, University of Applied Sciences - FH Merseburg, University of Hannover, University of Ulm, VPRT (Germany); Antenna Hungaria, Communications Authority Hungary (Hungary); Basamad College, Tehran (Iran); Hitachi Kokusai Electric Ltd., JVC Victor Company of Japan, Ltd., NHK (Japan); Libyan Jamahiriya Broadcasting (Libya); Broadcasting Centre Europe (Luxembourg); Asia Pacific Broadcasting Union (Malaysia); Agentschap Telecom, Nozema, Radio Netherlands, Technical University Delft (Netherlands); Radio New Zealand International (New Zealand); Voice of Nigeria (Nigeria); Telenor/Norkring (Norway); Radiodifusao Portuguesa (Portugal); RTRN/The Voice of Russia (Russia); Arab States Gulf Cooperation Council (Saudi Arabia); Government of Catalonia, Universidad del Pais Vasco, (Spain); Swedish Radio International (Sweden); EBU, International Committee of the Red Cross, ITU (Switzerland); Arab States Broadcasting Union (Tunisia); BBC, Christian Vision, QinetiQ, RadioScape Ltd., Roke Manor Research Ltd., VT Merlin Communications, WRN (U.K.); Broadcast Electronics, Inc., Dolby Laboratories Incorporated, Dolby Laboratories Licensing Corporation, Harris Corporation, Broadcast Communications Division, IBB/VOA, IDT Continental Electronics, Kintronic Laboratories, Inc., National Association of Short-wave Broadcasters, Sangean America, Inc., TCI, a Dielectric Company, Via Licensing Corporation (U.S.A.); and Radio Vaticana (Vatican City).

Yours sincerely,


Peter Senger
DRM