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April 14, 2014

VIA ELECTRONIC FILING (ECFS)

Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: *Ex Parte* Presentation
ET Docket No. 13-84

Dear Ms. Dortch:

On April 10, 2014, representatives of Sensormatic Electronics, LLC ("Sensormatic") met with the staff of the FCC's Office of Engineering and Technology to discuss Sensormatic's position in the above-referenced proceeding. A complete list of attendees is attached as Exhibit 1. During the meeting, Sensormatic provided background on the company and its electronic anti-theft technology, its support for the adoption of the IEEE limits rather than the ICNIRP limits, and its position that the FCC should not expand this proceeding to address the unrelated topic of electromagnetic compatibility of medical devices. Attached as Exhibit 2 is the presentation and handout provided at the meeting, which summarize the discussion.

Please feel free to contact the undersigned if you have any questions regarding this matter.

Very truly yours,

/s/

Bruce D. Jacobs
Tony Lin

Attachments
cc: (via email)
see Exhibit 1

Exhibit 1

Attendees

FCC Office of Engineering and Technology

Kwok Chan
Rashmi Doshi
Martin Doczkat
William Hurst
Ed Mantiply
Bruce Romano
Travis Thul
Bob Weller
Anh Wride

Sensormatic Electronics, LLC

Craig Sharman, Director, Federal Government Relations
Don Umbdenstock, Manager International Approvals

Olin Giles, OmniVision Associates LLC, Consultant for Sensormatic
Bruce Jacobs, Pillsbury Winthrop Shaw Pittman, LLP, Counsel for Sensormatic
Tony Lin, Pillsbury Winthrop Shaw Pittman, LLP, Counsel for Sensormatic

Exhibit 2

Sensormatic

Sensormatic

Presentation to

Federal Communications Commission

Office of Engineering and Technology

ET Docket No. 13-84

April 10, 2014

Sensormatic

Overview

- Who we are
- What we do
- Why we support use of the IEEE Standards for human exposure at low frequencies, rather than the ICNIRP Guidelines
- Why we oppose expanding the proceeding to include compatibility with medical devices

Sensormatic®

The Company

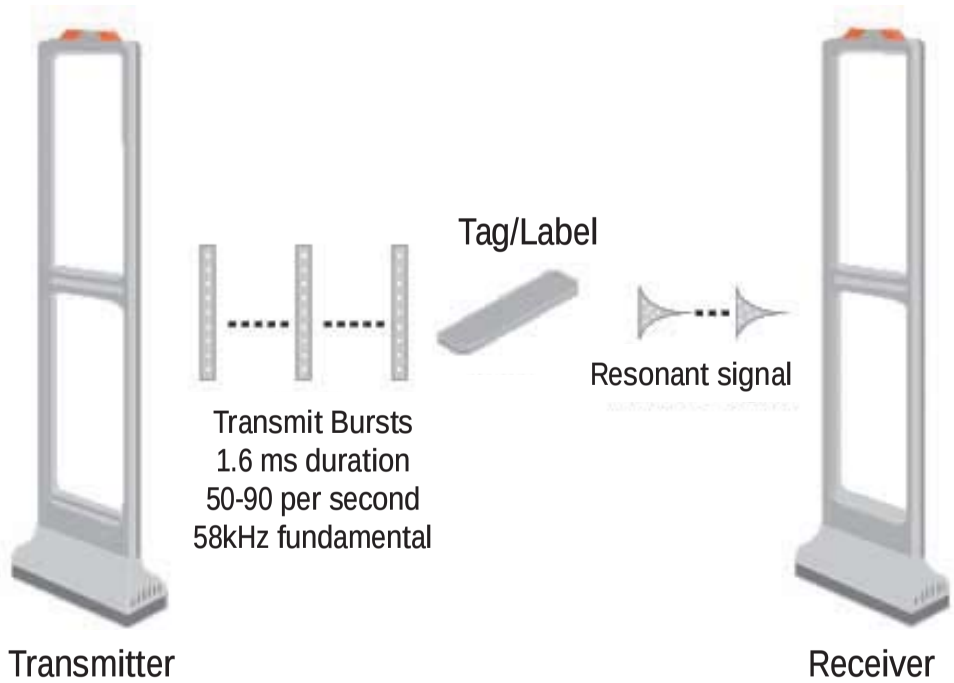
- An American success story, started in 1966 by the manager of a Kroger's grocery store in Akron, wanting to stop shoplifters
- Now: the leading provider worldwide of electronic anti-theft systems
- Such systems deter theft, which costs the average U.S. family over $400 annually (or $33 billion total)
- Nearly a million systems have been operating in the U.S. and around the world for decades
- Billions of safe passages through the company's systems
- Systems are a part of an eco-system whereby manufacturers incorporate tags into the packaging during manufacture

Sensormatic®

Our Products

Sensormatic

Our Technology



UltraMax

- The transmitter is amplitude modulated into a series of 58 kHz bursts
- The tag resonates like a tuning fork and rings down after field removed
- The technology has been the same since inception (30 years+)

Sensormatic

Sensormatic takes its compliance seriously

Sensormatic equipment complies with 47 CFR Parts 2 and 15; nearly 100 FCC equipment authorizations

(Grantee Code: BVC)

Sensormatic

ET Docket No. 13-84

- In 2013, FCC initiated an RF exposure proceeding to consider, among other things, whether it should establish human exposure limits on the power levels of transmitters in the low-frequency range (< 100 kHz)
- Specifically, FCC asked whether it should adopt the limits developed by either ICNIRP or IEEE
- Most commenters did not advocate specifically the adoption of either standard with respect to the low frequency range
- A medical device manufacturer, and an association of such manufacturers, urged expansion of this proceeding to address the unrelated topic of electromagnetic compatibility ("EMC") of medical implants and to provide special status for such devices

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IEEE and ICNIRP essentially the same at high frequency

- SAR limits are the same in both…10 g of contiguous tissue

	Gen Public
Whole Body	0.08 W/kg
Localized	2W/kg
Limbs	4 W/kg

- ***Less stringent*** than current FCC Rule…1.6 W/kg over 1 g tissue
- Worker or controlled environment limits track
- Both ICNIRP and IEEE include the relaxation for limbs at HF
- Evaluation methods are essentially the same

Most users don't really have to choose which to use

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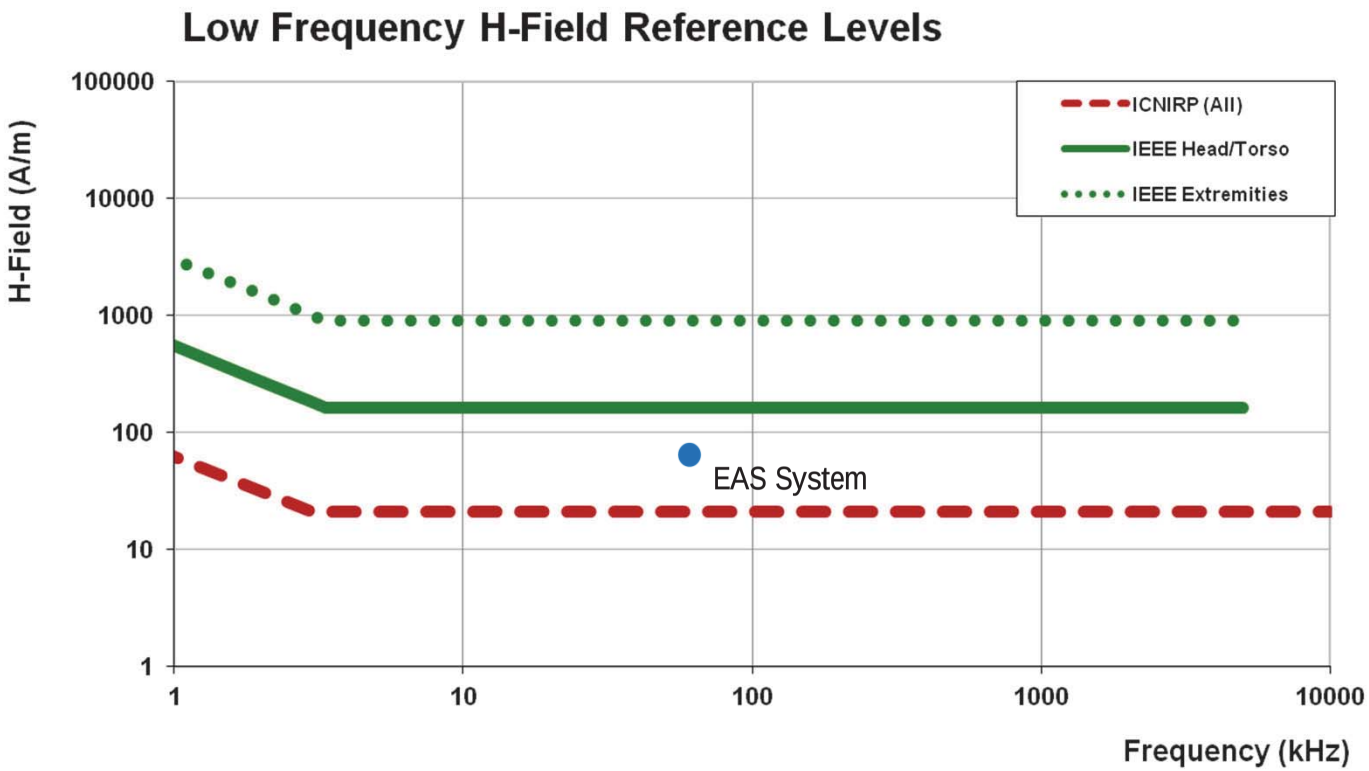
IEEE and ICNIRP are very different at low frequency



If ICNIRP Reference Levels are used as limits

- ICNIRP is 8x lower than IEEE
- Fields reduce proportional to an inverse cube of distance ($1/d^3$)
- So the effective performance range reduction is 50% - 65%
- At low frequencies, ICNIRP has no separate limit for limb exposure

> 50% Performance Reduction

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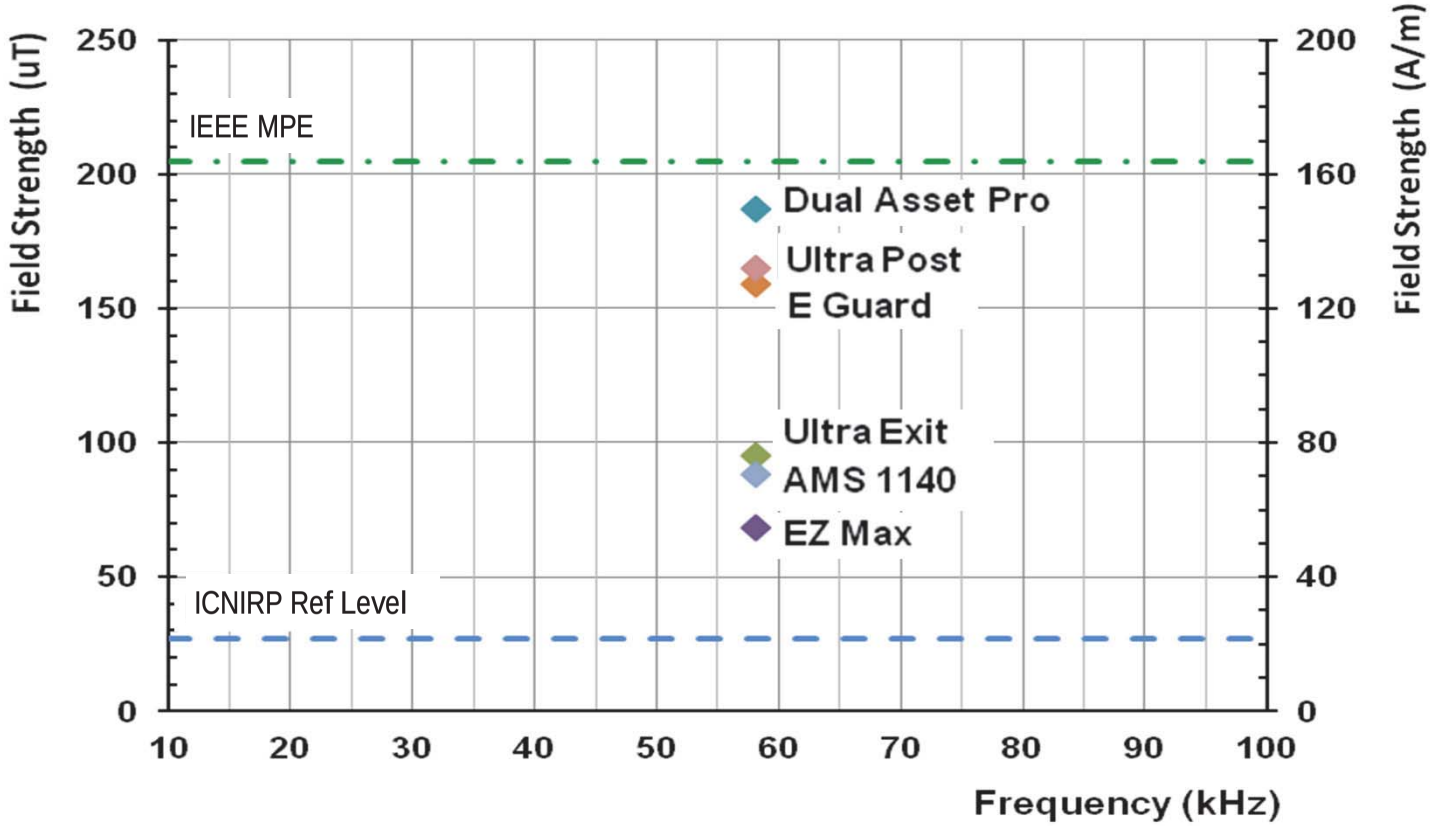
Our products comply with IEEE C95.1-2005 MPE



Assessment Methodology

- Per IEC 62369-1
- Fields can be calculated by analytical tools such as Maxwell
- Fields are finally confirmed by measurement

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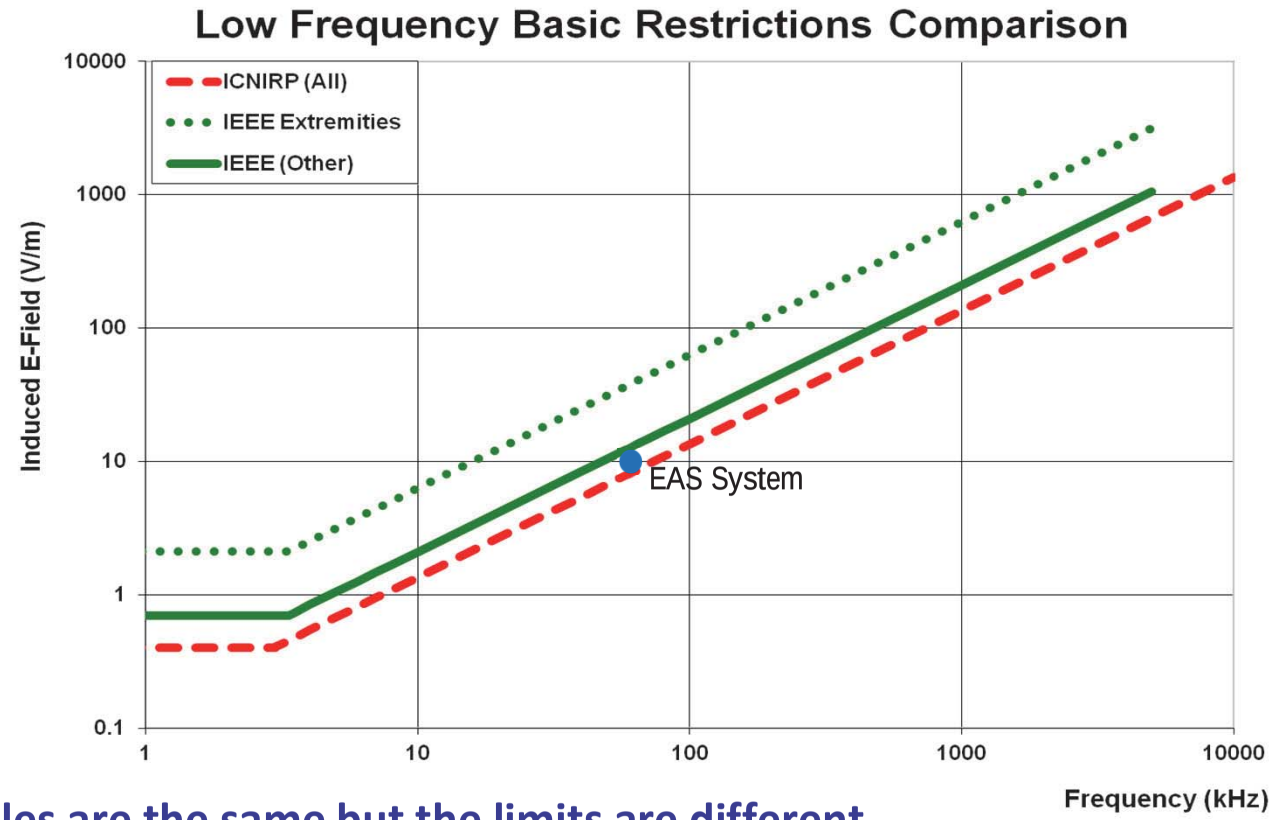
IEEE and ICNIRP Basic Restrictions also differ significantly



The principles are the same but the limits are different

- 1.5x - 2.5x difference in Basic Restrictions
- Higher performance USA market products will suffer (> 20% degradation)
- ICNIRP has no allowance for limbs (difference over 4x).

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The FCC should choose the IEEE Standards

- The IEEE Standard is safe and science-based
  - the limits below 100 kHz are traceable to scientific findings
  - the established safety factors and separate limits for body limbs are justified and conservative
  - The C95 set of standards contain limits, justifications, measurements and safety programs
- The IEEE Standards development process is fair
  - open, transparent, and consensus-based
  - the IEEE committee has broad-based membership, including experts from academia, government, and industry
  - consistent with National Technology Transfer and Advancement Act of 1995 and OMB Circular No. A-119 regarding Federal use and development of voluntary consensus standards
- Testing for compliance with the IEEE Reference Levels can be done at reasonable cost

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The ICNIRP low frequency guidelines are flawed

- The ICNIRP levels are not based on new science
  - Below 100 kHz, ICNIRP 1998 limits are 32X (30 dB) lower than IEEE limits
- ICNIRP 2010 issued to "correct" low frequency limits
  - Limits increased by 4X
  - Still 8X or 18 dB lower than the IEEE limits
  - No new science…. appears driven by EU Politics
  - No separate limits for body limbs
- The ICNIRP Guidelines are not consensus standards
  - The ICNIRP Guidelines were developed by a small, closed group with limited experience in developing low frequency exposure standards
  - ICNIRP Guidelines are just a technical paper published in a journal
  - Inconsistent with National Technology Transfer and Advancement Act of 1995 and OMB Circular No. A-119
- Cost of BR assessment is approximately $15K - $25K each time
- Potential adverse effect on other industries

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Europe doesn't use the ICNIRP 2010 LF Guidelines "As-Is"

- EC Recommendation 1999/519/EC (still in force)
  - Uses the ICNIRP 1998 Guidelines
  - CNS tissue in head and torso only
- EU Worker Directive 2004/40/EC (now revoked)
  - Used ICNIRP 1998
  - Published but implementation delayed until revoked
  - Serious concerns by stakeholders – exposure levels for industry/medical
- New EU Worker Directive 2013/35/EU (Published 2013)
  - Mixed ICNIRP 1998 and 2010 for occupational - ***but not identical***
  - At HF it includes the IEEE C95.1 cubic SAR assessment (IEEE/ICNIRP limit)
  - At LF the action/reference levels are different/less stringent than ICNIRP
  - Relaxations for limbs (fields couple weakly with limbs/extremities)
  - MRI exemptions
  - Allows "*other internationally recognised standards*" under some conditions

Sensormatic

ICNIRP: serious negative impact on performance

- Sensormatic complies with IEEE.....no issues
  - Full suite of standards
- ICNIRP 2010 Reference Levels result in unacceptable performance for our customers
  - Exit widths reduced by > 50% ... Systems are not usable
- ICNIRP 2010 Basic Restrictions also a problem
  - Reduced performance for USA customers
  - Exit widths reduced by 20% - 40%
  - Requires expensive computer modeling to assess

Sensormatic

The FCC should not expand this proceeding to address EMC

- These requests are beyond the stated scope of proceeding
- The FDA is the agency that has the expertise and jurisdiction to address issues of medical implant safety
- Ample evidence confirms that the current approach is working well
  - these products have successfully coexisted for decades
  - the “don’t linger/don’t lean” approach, endorsed by the FDA, works
- Testimony of leading cardiologists confirms there is no health issue

FACTSHEET: IEEE vs. ICNIRP

ITEM	IEEE STANDARD	ICNIRP GUIDELINES	COMMENTS
FCC's Current EMF Standard (100 kHz to 100 GHz)	IEEE C95.1 1991	No	Current FCC Rule is based on the IEEE C95.1 1991 content FCC may revise this rule and may extend frequency range below 100 kHz
Stated Protection Goal	Adverse health effects	Adverse health effects	Same goals
Frequency: 100 kHz to 300 GHz	IEEE C95.1 2005	ICNIRP 1998	Above 100kHz: IEEE & ICNIRP limits are similar
9 kHz to 100 kHz	IEEE C95.1 2005	ICNIRP 2010	Below 100 kHz: IEEE and ICNIRP limits differ substantially (FCC rules start @ 9 kHz)
First Release Date	1966	1998	
Number of Editions	5	1.5	ICNIRP 2010 a correction to ICNIRP 1998
HQs of Sponsoring Organization	Piscataway, NJ, USA	Munich, Germany	
Primary Funding	IEEE and Volunteers	German Environment Ministry	
Number of Standards Supported by Sponsoring Organization	900+	4	IEEE is world's largest standards developer, with a well-developed standards process
Number of Committee Members	135	14	ICNIRP members self-selected by the group
U.S. Committee Members	72	2	
European Committee Members	35	9	Nearly two-thirds of ICNIRP from EU countries
U.S. Govmt. Committee Members	35	0	FCC, FDA, EPA regularly participate in IEEE

ITEM	IEEE STANDARD	ICNIRP GUIDELINES	COMMENTS
Academic and Government %	50%	100%	Percentage of the committee members
Industry Committee Members?	Yes	No	ICNIRP prohibits including industry members
Transparent Process? Voluntary/Consensus Standard?	Yes	No	IEEE requires 75% approval vote; ICNIRP's process is confidential and unknown
Meets OMB Directive A-119/Nat'l Tech Transfer Act of 1995?	Yes	No	White House: use voluntary/consensus standards whenever practicable and appropriate
Appeals Process?	Yes	No	
Below 100kHz Limits Traceable to Science?	Yes	No	*See* Reilly paper to be published in *Health Physics*
Safety Factors Justified; Probability Models Explained?	Yes	No	
Separate Limits for Body Limbs?	Yes	No	ICNIRP has no separate higher limits despite scientific support
Costs to Comply?	Simple EMF Measurement	Usually Requires Costly Modeling	Typical added cost of ICNIRP modeling: $20K per new product
Current Products Adversely Affected by proposed rulemaking below 100 kHz?	None	Anti-theft systems, Wireless EV Chargers, MRI systems	ICNIRP 1998 limits a serious problem; ICNIRP 2010 improved but still a problem -- 8X lower than IEEE limits
Accommodates Power Line Rights-of-Way?	Yes	No	ICNIRP limits create problems for high voltage lines; IEEE makes a practical and realistic distinction for transitory exposures of the general public passing under such lines