



Regulatory Overview of Ultra-wideband in Canada

WiMEDIA OPEN HOUSE & EXHIBITION

Thursday, May 10, 2007

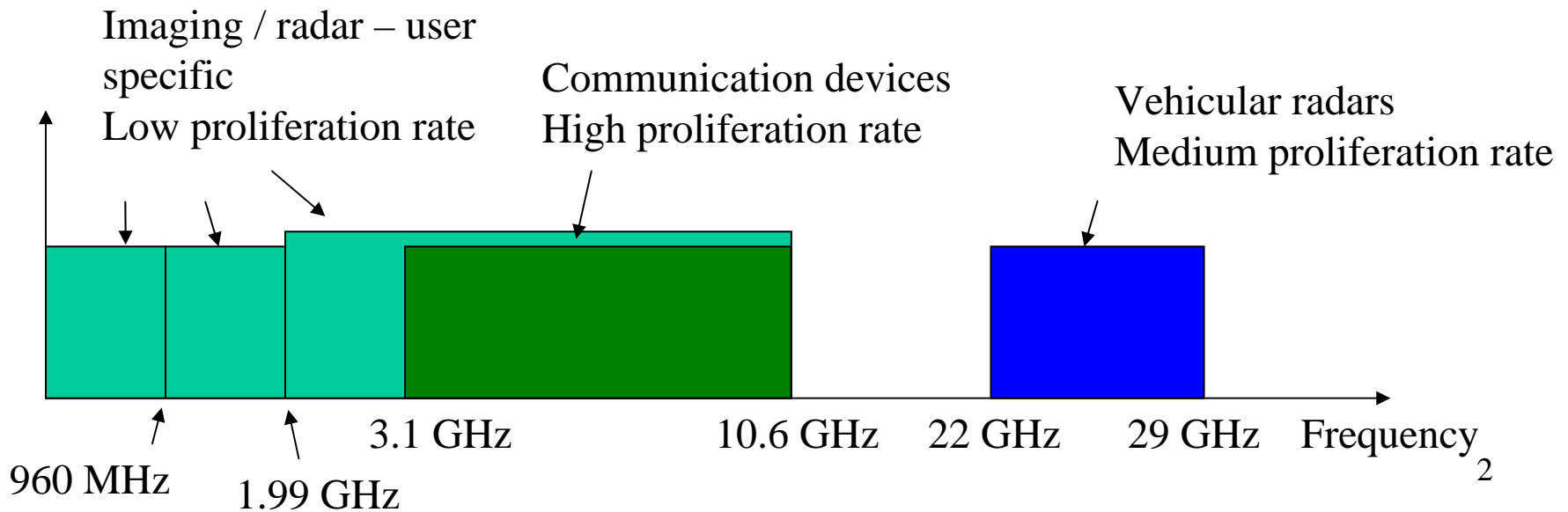
Montreal

**EMC & Radio Standards
Spectrum Engineering Branch
Industry Canada**



3 Broad Categories of Devices

- ❖ Imaging Device: Ground Penetrating Radar / Medical Imaging / Wall Radar/ Surveillance etc.
- ❖ Vehicular Radar
- ❖ Communication Devices





Imaging UWB

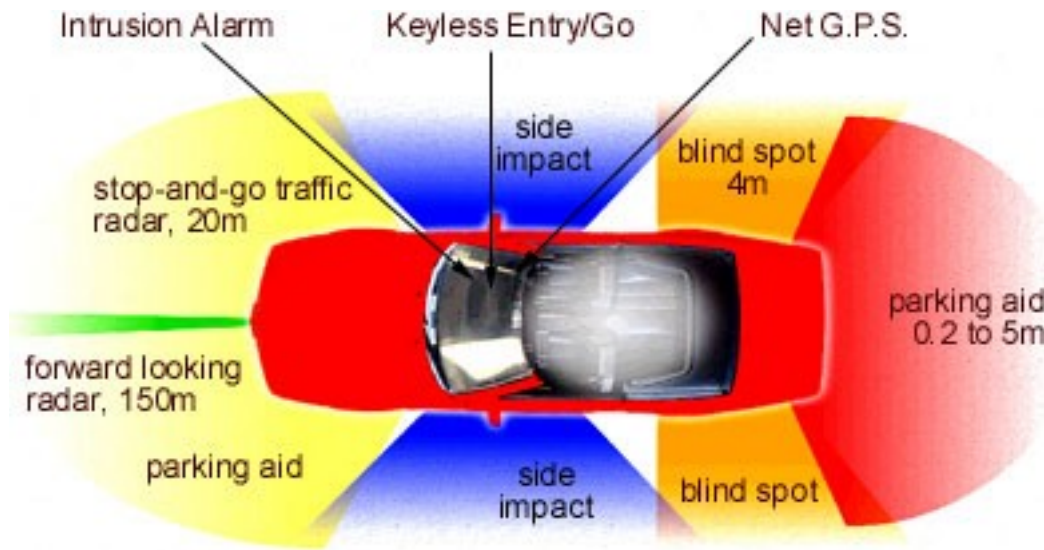
❖ Imaging Devices have been around since the 1970's and penetrate most deeply with frequencies under 1 GHz but give better detail at higher frequencies (resolution = wavelength)





Vehicular Radar UWB

- ❖ Vehicular radar is new and works at 22 GHz and up
- ❖ Multiple radar units per vehicle





Communication UWB

Everything from Wireless USB to HDTV cable-less video cables

FCC Certifications in the United States:

3100-4800 MHz Communications

Belkin -2 , WiQuest - 2, Wionics,
Staccato, Wisair, General Atomics,
Freescale, Time Domian - 2, Focus
Enhancements (US), and 4 from
Toshiba (Japan)

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Total FCC Certified 16

5600-7200 MHz Communications

Multispectral Solutions, US – 4
Audio Technica, Japan – 2
Ubisense, US - 1

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Total FCC Certified 7





UWB Consultation Paper

- ❖ Industry Canada released a Consultation Paper on UWB in February 2005.

- ❖ The Consultation Paper invited comment on:
 - Q1) Additional public benefits and concerns relevant to the introduction of UWB.*
 - Q2) A set of definitions and terms for UWB.*
 - Q3) Measurement methods of UWB transmissions.*
 - Q4) Authorizing options for radar imaging devices (GPR, etc.).*
 - Q5) Authorizing options for consumer devices, vehicular radar, and communication and measurement devices.*
 - Q6) UWB transmission limits and other, if any, measures that would not impede the development of UWB devices and would be protective of authorized radiocommunication services.*



UWB Consultation Paper (cont'd 1)

- ❖ Comments period ended in May 2005 with 30 submissions.
- + Received submissions generally supported the introduction of UWB devices in Canada.
- + Submissions generally agreed on the appropriate authorization processes for all types of UWB applications.
- Significant disagreement on power level limits to be allowed to protect a vast array of existing services.



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Comments Received on Gazette Notice SMSE-002-05: Consultation Paper on the Introduction of Wireless Systems Using Ultra-wideband Technology

[Gazette Notice SMSE-002-05: Consultation Paper on the Introduction of
Wireless Systems Using Ultra-wideband Technology](#)

February 5, 2005

Comments Received

Note: Documents received from the public are published in the language of the author.

[Help to Access Documents](#)

- [Bell Wireless Alliance](#)
PDF Format, 229 KB
- [Canadian Association of Broadcasters \(CAB\)](#)
PDF Format, 191 KB
- [Canadian Cable Telecommunications Association](#)
PDF Format, 134 KB
- [Canadian Space Agency](#)
PDF Format, 363 KB
- [Canadian Satellite and Space Industry Forum](#)
PDF Format, 883 KB



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References**

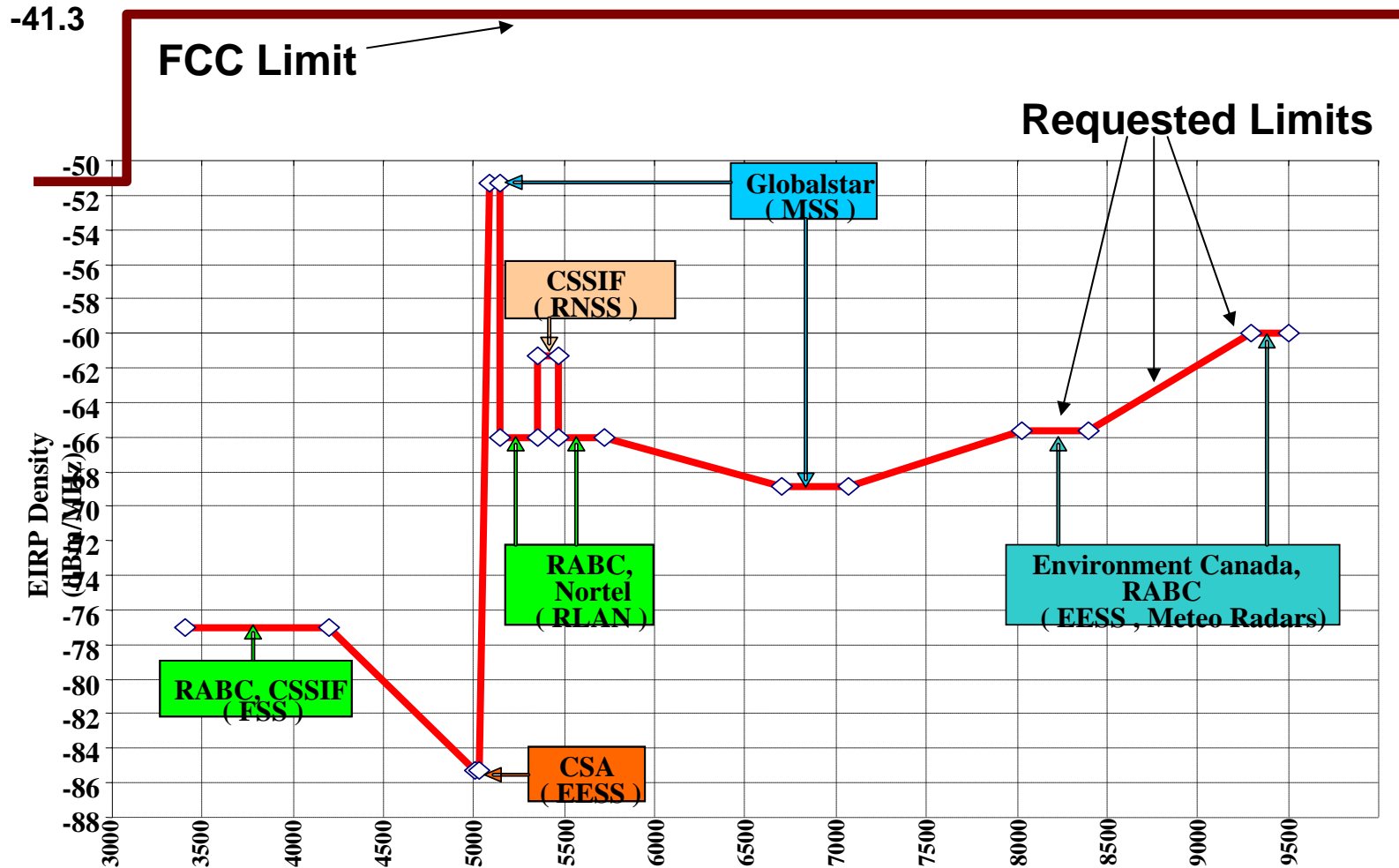
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Limits Requested by Respondents





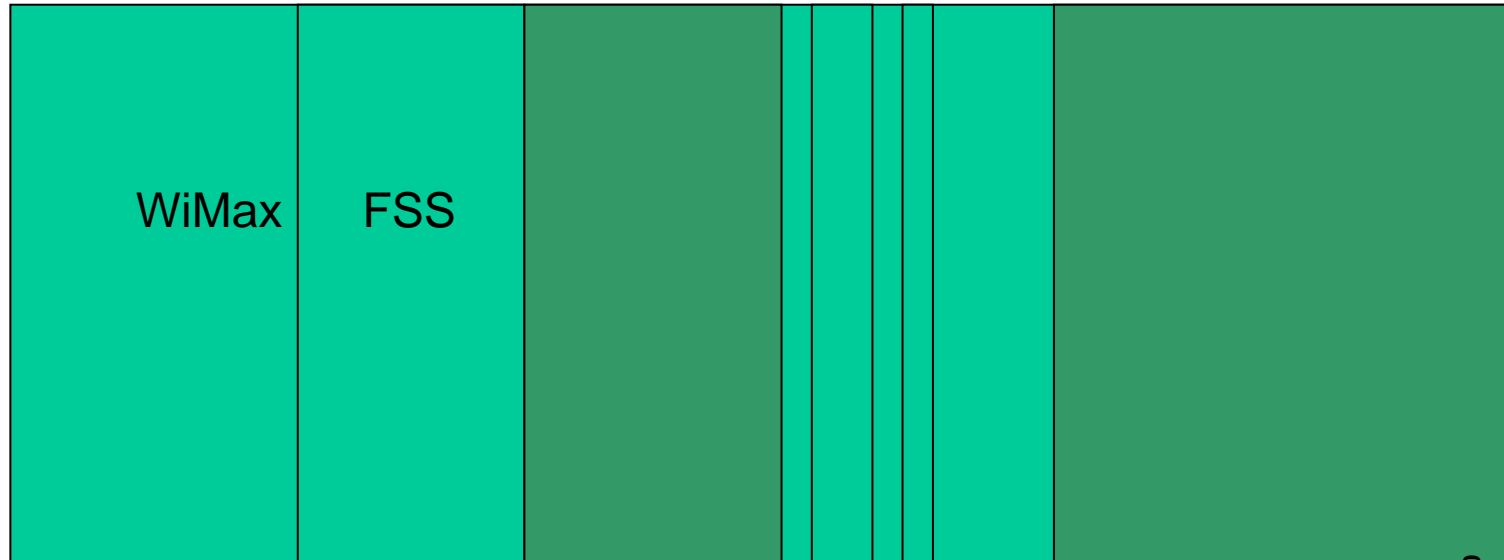
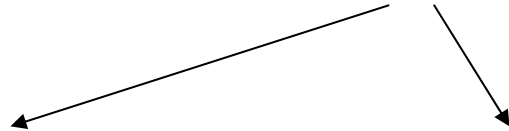
Difference between Canada and the U.S. between 3.1 GHz and 4.2 GHz

- ❖ Canada auctioned 3.5 GHz unlike U.S. Two recipients now deployed.
- ❖ Mostly lower look-angles than U.S. for FSS C-Band satellite dishes at 3.7 – 4.2 GHz.

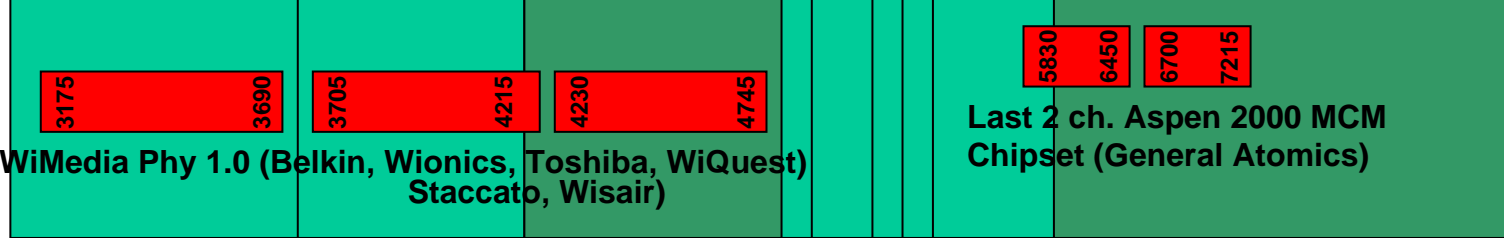




Europe / CEPT



Freescale DS Channel Plan



3.1 3.7 4.2 4.8 4.94 4.99 5.01 5.03 6.0 10.6 GHz
Public Safety Galileo (CSA) 5600-5650 MHz Weather radars
Last 2 ch. Aspen 2000 MCM Chipset (General Atomics)





Regulatory Status

- ❖ Currently no rules on UWB
- ❖ Few experimental licenses for UWB
- ❖ Ready to move forward
- ❖ Policy to be published in near future
- ❖ Regulatory Standards following Policy



Next Steps

- ❖ Release a Gazette Notice on spectrum utilization policy provisions for the introduction of wireless devices using UWB technology in Canada.
- ❖ Submit to the RABC for comments: UWB radio standard specifications, operational requirements and restrictions, and the requirement for measurement of radiated emissions from UWB devices.



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Radio Standards Specifications

[RSS-Gen - General Requirements and Information for the Certification of Radiocommunication Equipment](#)

Issue 1, September, 2005

[RSS-102 - Radio Frequency Exposure Compliance of Radiocommunication Apparatus \(All Frequency Bands\)](#)

Issue 2, November 2005

[RSS-111 - Broadband Public Safety Equipment Operating in the Band 4940-4990 MHz](#)

Issue 1, July 2006

[RSS-117 - Land and Coast Station Transmitters Using A1, A2, A3, A2H, or A3H Emissions Operating in the 200 - 535 kHz Band](#)

Issue 2, March 30, 1974

[RSS-118 - Land and Subscriber Stations: Voice, Data and Tone Modulated, Angle Modulation Radiotelephone Transmitters and Receivers Operating in the Cellular Mobile Bands 824 - 849 MHz and 869 - 894 MHz](#)

Issue 2, August 19, 1990

[RSS-119 - Land Mobile and Fixed Radio Transmitters and Receivers Operating in the Frequency Range 27.41-960 MHz](#)

Issue 8, September 2006

[RSS-123 - Low Power Licensed Radiocommunication Devices](#)

Issue 1, Revision 2, November 6, 1999



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 - ▶ [Broadcasting Equipment Technical Standards \(BETS\)](#)
 - ▶ [Digital Television Standards](#)



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 recognized by Industry Canada to test to Canadian Terminal Attachment requirements
- [Canadian Testing Laboratories](#)
 recognized by foreign Mutual Recognition Arrangement / Agreement partners
- [Radiocommunication/Broadcasting Testing Laboratories](#)
 recognized by Industry Canada as per section 5.3.1 b) of procedure [CB-02](#)
- [Certification Bodies](#)
 recognized by Industry Canada to certify to the Canadian radiocommunication and/or broadcasting equipment
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For Information regarding Certification Bodies send to cb.inquiries@ic.gc.ca

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Recognized Certification Bodies

- AMERICAN TCB INC.
- BABT
- BAY AREA COMPLIANCE LABORATORY CORP.
- CETECOM ICT SERVICES GMBH
- CKC LABORATORIES INC. (MARIPOSA)
- COMPLIANCE CERTIFICATION SERVICES (CCS)
- CURTIS STRAUS LLC
- ELITE ELECTRONIC ENGINEERING CO.
- ELLIOTT LABORATORIES INC.
- EMCCERT DR. RASEK GMBH
- ETS PRODUCT SERVICE AG
- INTERTEK TESTING SERVICES NA INC. (BOXBOROUGH)
- MET LABORATORIES INC.
- NEMKO CANADA INC.
- NORTHWEST EMC INC.
- PC TEST ENGINEERING LABORATORY INC.
- PHOENIX TESTLAB GMBH
- TELEFICATION BV
- TIMCO ENGINEERING INC.
- UNDERWRITERS LABORATORIES INC. (SANTA CLARA)




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Thank you

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