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October 25, 2010

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

Re: WP Docket No. 07-100, Amendment of Part 90 of the Commission's Rules
Ex Parte Presentation

Dear Ms. Dortch:

On October 22, 2010, Delroy Smith of Philips Healthcare and the undersigned met with Ruth Milkman, Michael McKenzie, Roger Noel, David Goldman and Scot Stone of the Wireless Telecommunications Bureau and Mark Settle of the Office of Engineering and Technology.

We discussed the regulatory history of this proceeding, the technical feasibility of reciprocal sharing of the 1427-1432 MHz band on a primary/secondary basis, the need for wireless patient monitoring in healthcare facilities, and the FDA's jurisdiction over the safety of medical devices. The slides used in the course of the discussion to illustrate select points are attached.

This letter is being filed electronically in the above docket and copied to meeting participants by email.

Respectfully,

David R. Siddall
Counsel to Philips Healthcare

Attachment

cc: Ruth Milkman, Michael McKenzie, Roger Noel, David Goldman, Scot Stone, Mark Settle (by email)

PHILIPS

sense and simplicity

Advancing patient care with innovation in wireless….

A case to improve WMTS spectrum allocation

22 Oct 2010 Delroy Smith, Project Manager

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Key products and services of Philips Healthcare

Providing comprehensive support

Philips Healthcare

Businesses

Imaging Systems

- Interventional X-Ray
- Diagnostic X-Ray
- CT
- MR
- SPECT/CT
- PET/CT
- Ultrasound
- Women's health

Home Healthcare Solutions

- Sleep disordered breathing
- Respiratory care
- Home monitoring

Patient Care and Clinical Informatics

- Patient monitoring
- Clinical informatics
- Cardiac resuscitation
- ECG solutions
- Ventilation

Services

- Site planning and project management
- Ambient experience
- Education
- Performance services
- Maintenance

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Inside the Healthcare Facility

Ambulatory & Wireless Patient Monitoring: Why Wireless?

- Enables freedom of movement for patients, which speeds recovery and minimizes complications
- Provides immediate access to patient data for mobile Care givers
- Improves recognition and response to changes in a Patient's condition
- Enables immediate and seamless integration of patient data into EMR and Clinical Decision Support Systems
- Facilitates goal of monitoring every hospital patient seamlessly from ER to discharge and lowers cost of care

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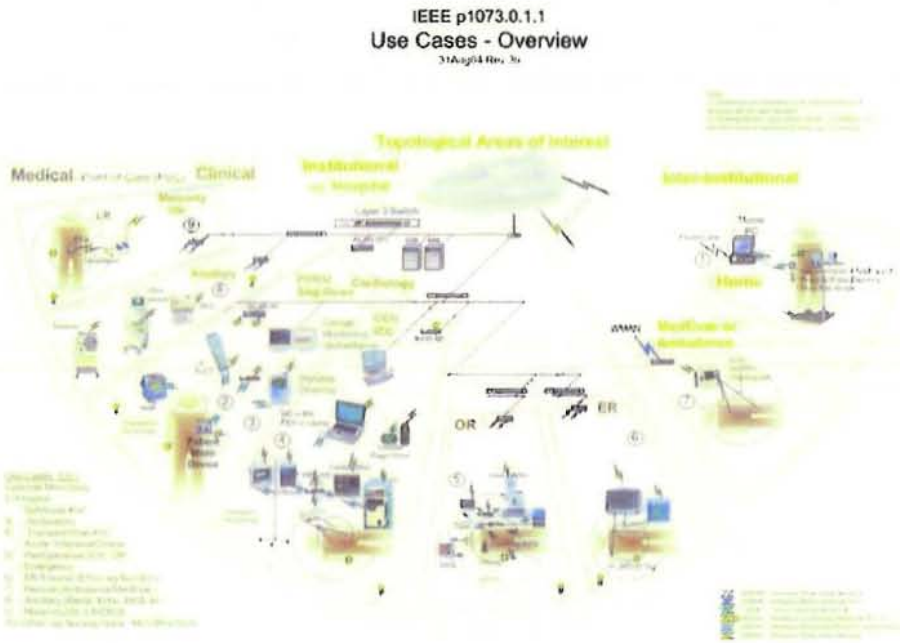
The wireless needs of healthcare are expanding

. . . Many types of devices to meet demand from variety of use models



Multitude of DEVICES

- Telemetry & sensors need long battery life & lower data rate solutions
- Wireless bedside devices demand higher data rate solutions
- Application servers and databases

Variety of Use MODELS

- Primary monitoring, e.g. telemetry, and bedsides
- Secondary support monitoring, e.g. wireless bedsides to central station
- Intermittent monitoring, e.g. vital signs monitoring

- These models cannot be satisfied by one wireless solution
  - Primary protected spectrum
  - Secondary shared spectrum
  - Unlicensed ISM spectrum
  - Safety coexistence mechanisms

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Philips Smart-Hopping Telemetry: Protecting Patients: Managing Interference

- Intelligent, Cognitive Radio Technology
- Senses it's own local radio environment
  - Always monitors all its possible channels.
  - Uses only quiet channels.
  - Selects channels very quickly without data loss.
  - Designed to co-exist with frequency hoppers and other
  - Data packets use cyclic redundancy check (CRC) to manage errors.
  - Transmission retries through automatic repeat request (ARQ).
  - *Clinical value: Achieves very low data loss per device*

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Smart-Hopping Telemetry for WMTS: Advanced technology designed to share spectrum

- System can be configured to use primary channels only or a mixture of both primary and secondary channels.
- Devices protect primary users by listening to the channel before transmitting.
- Devices detect any type of radio modulation or noise if different from Philips' own modulation technology.
- Devices always use quietest channel for each transmission.
- Devices transmit for only short periods of time, with low duty cycle.

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Smart-Hopping Telemetry for WMTS: Advanced technology designed to share spectrum

- Devices are professionally installed and maintained.
- Use secondary spectrum only when coordinated and spectrum is vacant as constantly monitored (see penultimate slide).
- Technology can operate in primary-only spectrum, but capacity and robustness increase with addition of access to vacant secondary spectrum.
- Secondary spectrum when available increases capacity for monitoring more patient functions, helps support coverage in large institutions, and increases design margin for transmission reliability.
- Technology is clinically safe – device safety has been reviewed and approved by the FDA.
- System automatically avoids unintentional radiators in primary spectrum (such as unintentional spurs from other equipment) as well as any signals in the spectrum.

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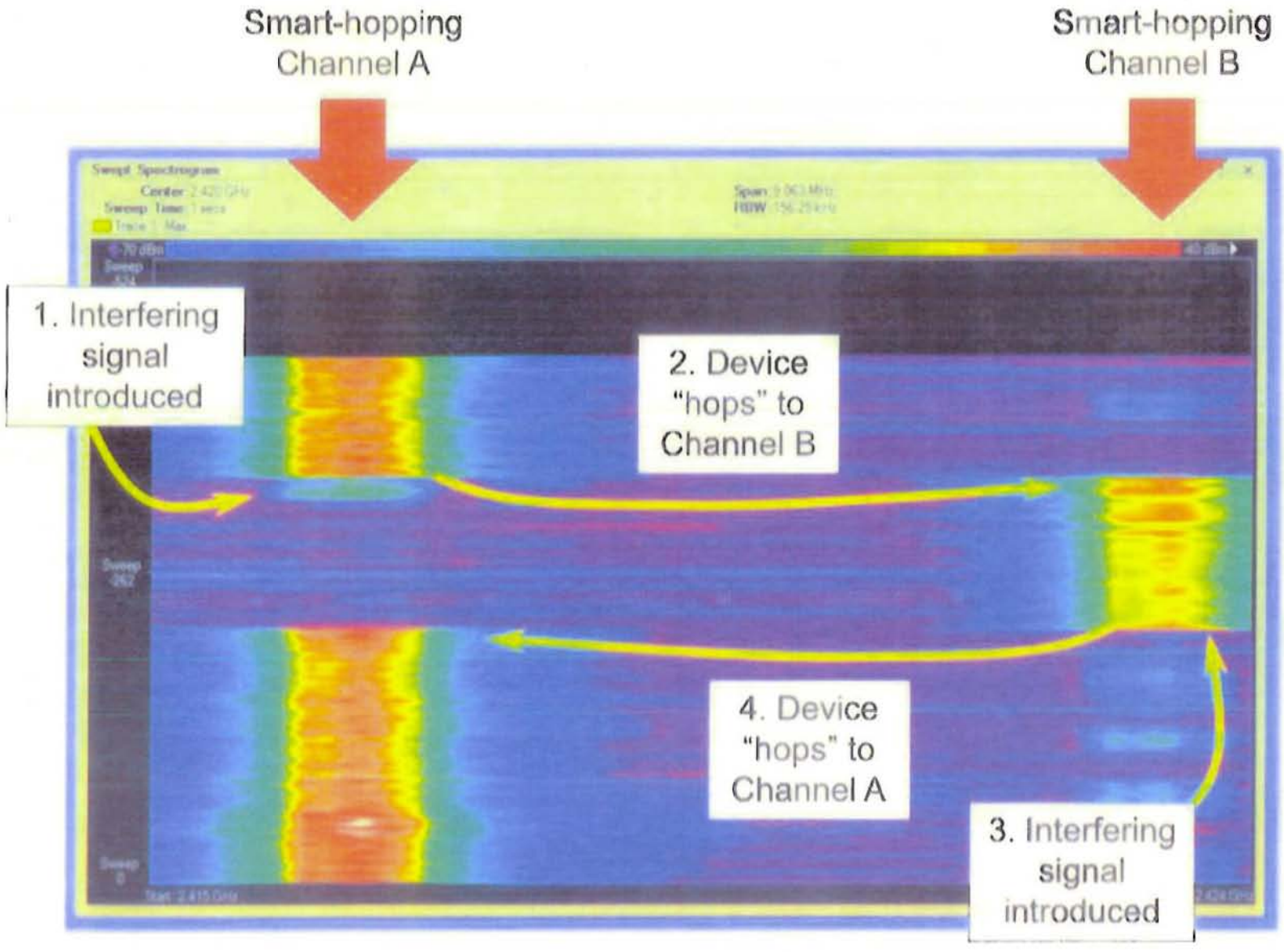
Smart-hopping
Channel A
Smart-hopping
Channel B
1. Interfering signal introduced
2. Device "hops" to Channel B
4. Device "hops" to Channel A
3. Interfering signal introduced

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Solutions…

Improve access to WMTS spectrum encourages more innovation

- FCC should allocate more spectrum to meet growing demand for wireless medical devices, by allocating secondary use in WMTS at 1.4 GHz
  - This enables future innovation to enhance patient care
    - We can better support future solutions like MBANS
    - More spectrum enables safer systems
    - We can drive down infrastructure cost to hospitals
  - There are larger number of hospitals that are currently using these solutions with secondary channels in use
    - They all operate safety, over 90,000 devices deployed
- Cognitive radio technologies dynamically adapts to the changing RF environment with spectrum sensing, analysis and decision making allows for safe and effective use of secondary spectrum