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Packet Length Issues Based on RF Media Considerations

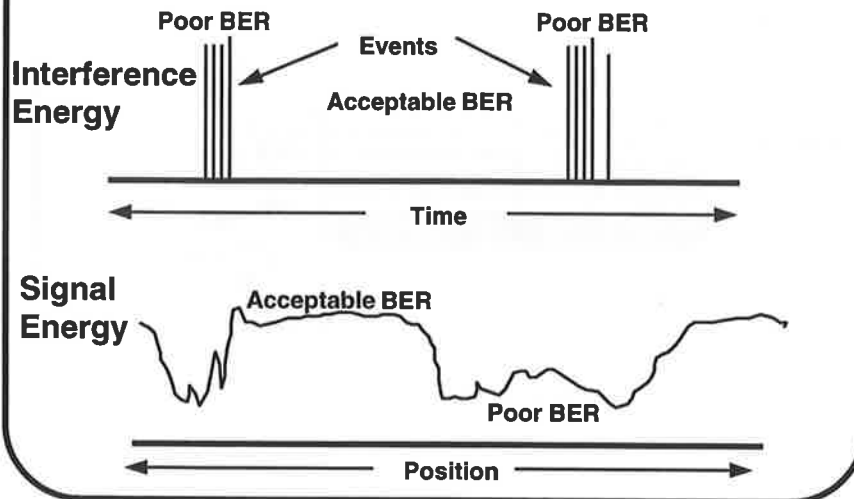
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Bursty View of Channel



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Microwave Oven

- Recognized as Period Interference Source
- Often Viewed as a Partial Band Jammer

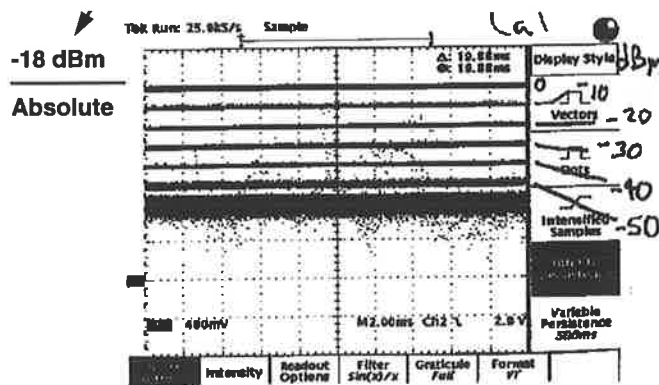
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Calibration

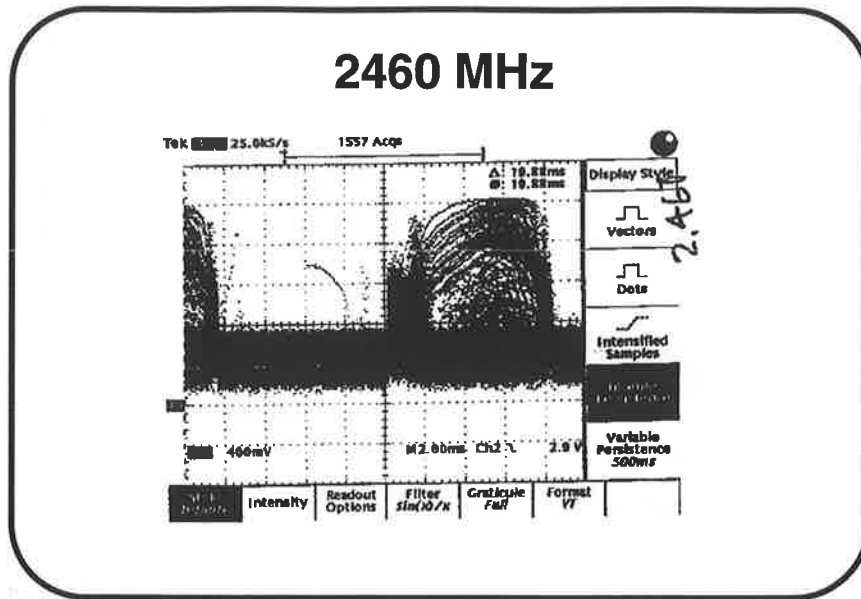
Correction to 94/94



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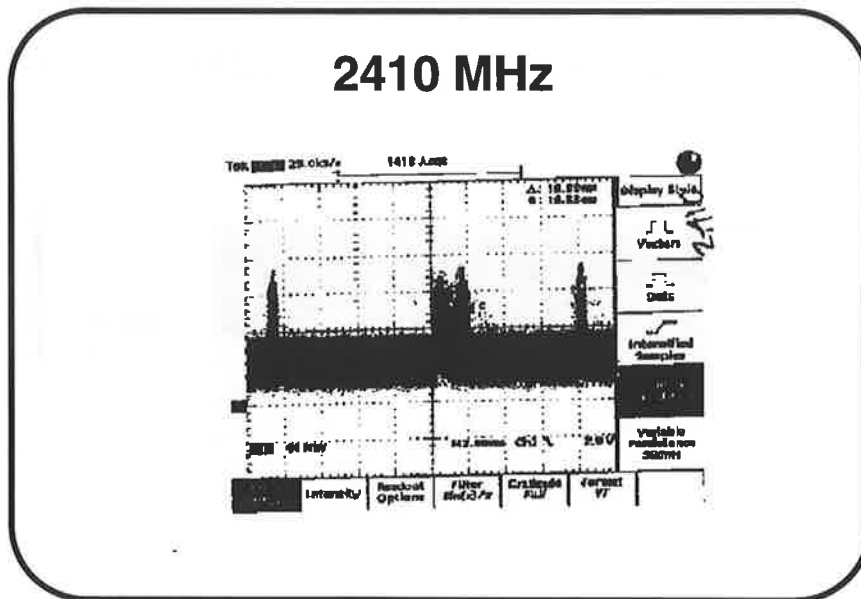
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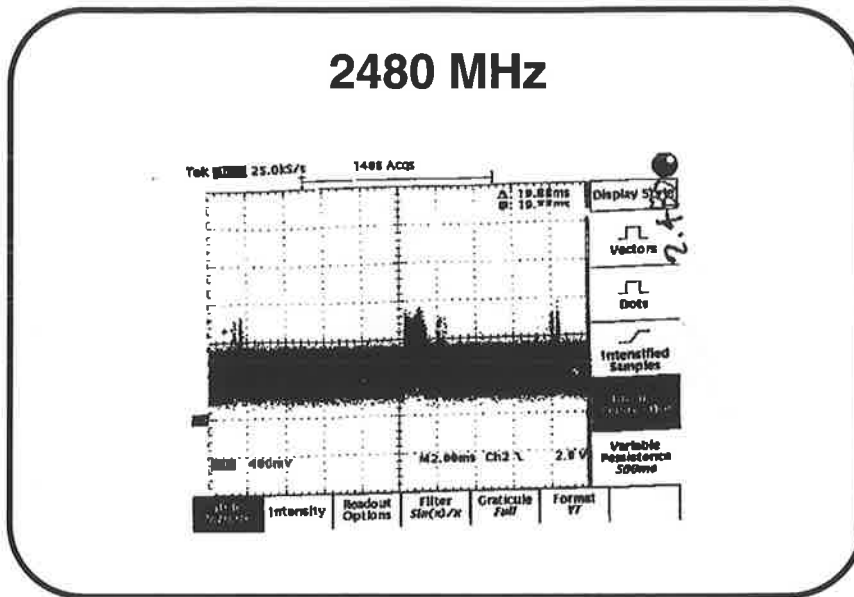
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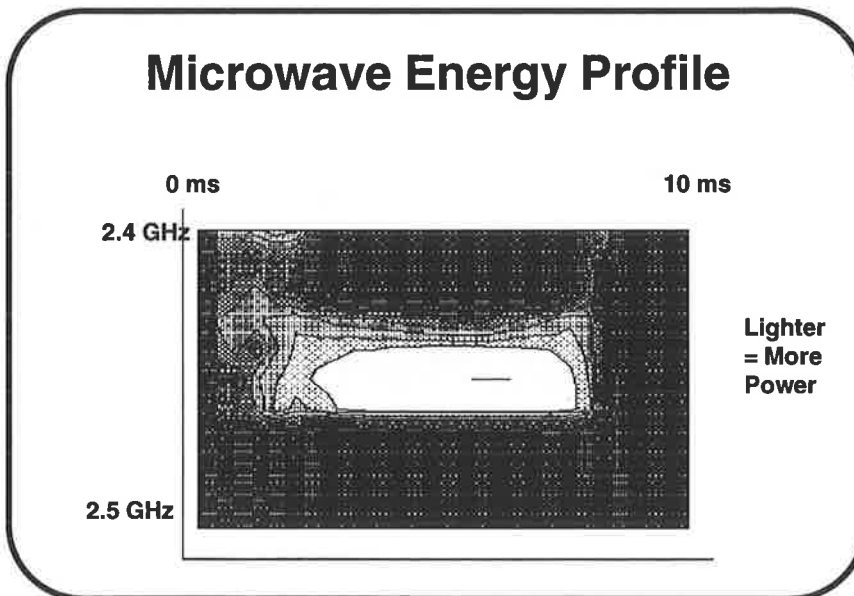
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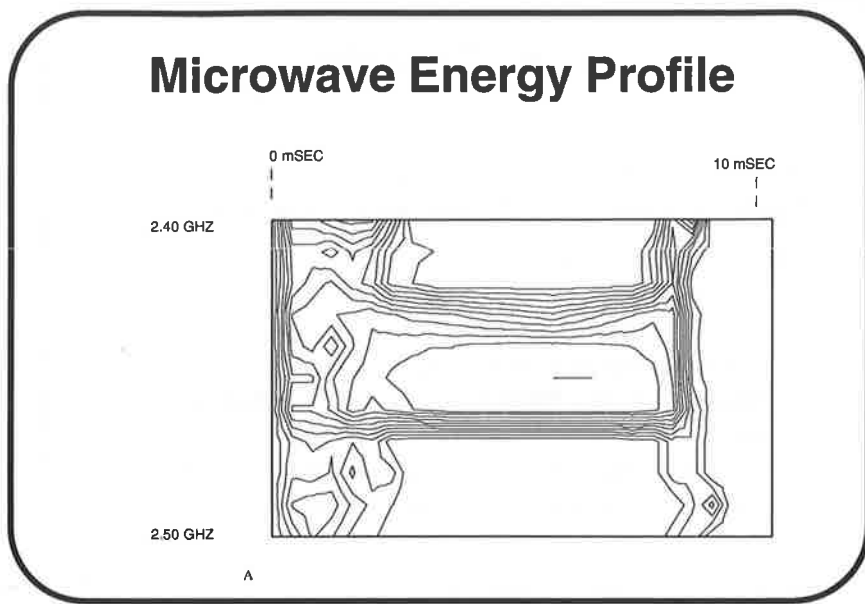
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Mobility

- **Indoor Channel Model**
 - No Consensus Model
 - 3-D Standing Wave Pattern With $\lambda/4$ Feature Spacing
- **Mobile Units Pass Through Standing Wave Features as a Function of Their Velocity**

MPH	m/s	time for $\lambda/4$ distance	example
10	4.47	6.7 ms	Industrial Vehicle
5	2.23	13.4 ms	Fast Walk
3	1.34	22.3 ms	Rumba
1	.45	67.1 ms	Waltz

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Test Results

- **Testing as Part of Diversity Study**
- **Results Anecdotal Rather than Definitive**
- **Test Conditions**
 - Single Channel, 250 KBPS MSK
 - Single Antenna at 60 inches height for Mobile Test
 - Best Antenna Diversity using RSSI for Stationary Test
 - Obstructed Path, Office Environment, Near Fringe
 - Two Transceivers, One Mobile, Ping Pong Protocol
 - 3 ms, 8 ms Packets [6 ms and 16 ms Round-Trip]
 - Mobile Measurements at Normal Walking Speed
 - Stationary Measurement during High Pedestrian Traffic

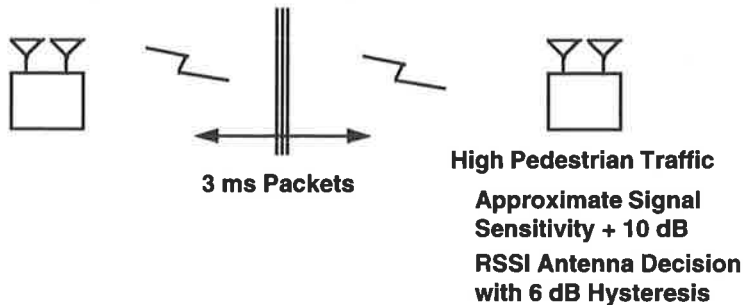
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Test Results (cont)

Stationary Results with Diversity:

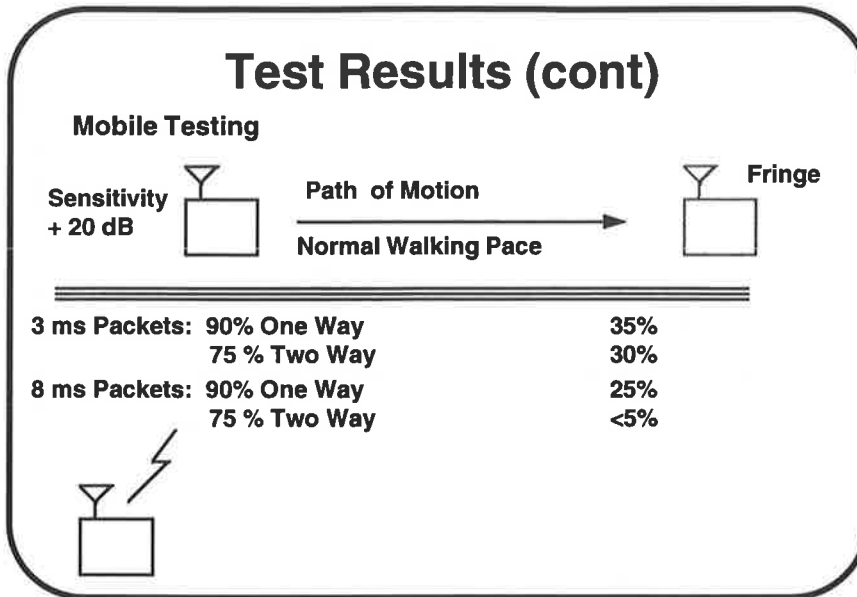


Result:
Antenna Switching Every 18 - 24 ms on Average

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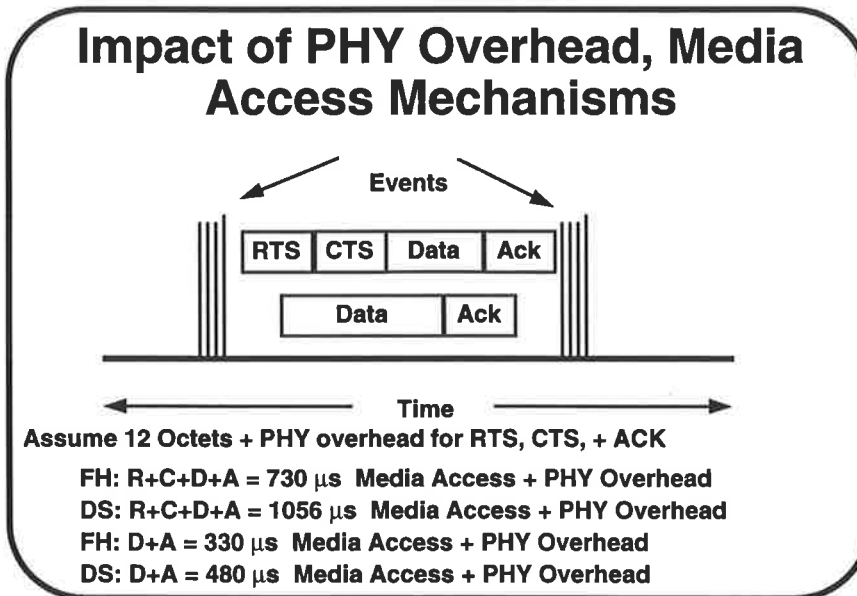
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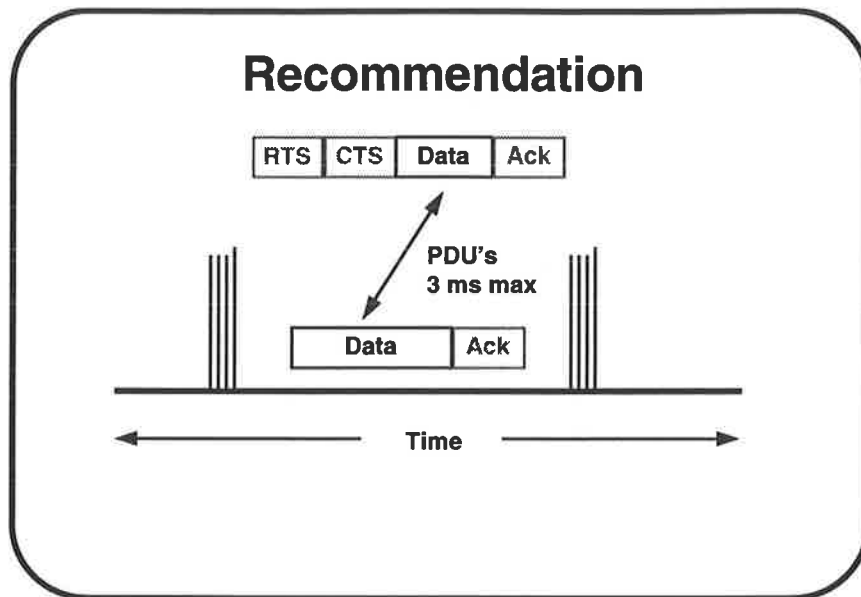
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