

**IEEE P802.11  
Wireless LANs**

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**Summation of Harris Proposal for TGb**

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**Abstract**

**This submission summarizes the Harris position regarding the high rate PHY proposal at 2.4 GHz. Key concerns are main points of the Harris proposal are discussed**

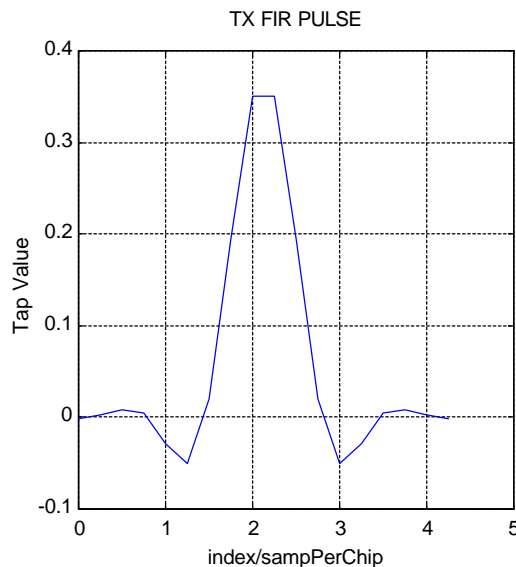
## HARRIS ANSWERS TO CONCERNS AND KEY HARRIS STRENGTHS

### ■ REGULATIONS

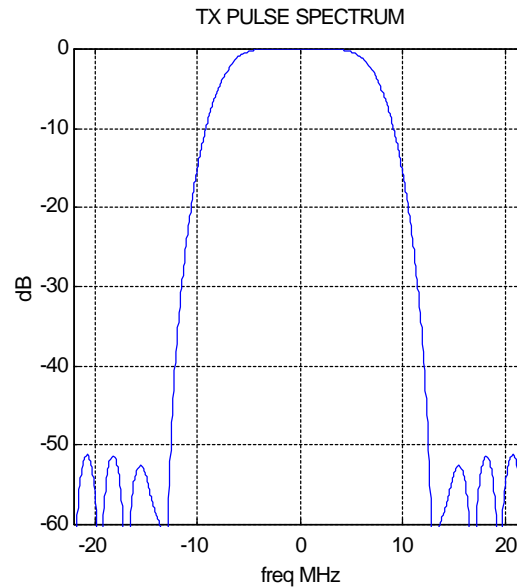
■ **FCC HAS APPROVED THE AIRONET RADIO WHICH IS BASED ON THE FUNDAMENTAL WAVEFORM PROPOSED BY HARRIS.**

■ **HARRIS HAS TECHNICAL DATA INDICATING THAT THE WAVEFORM MEETS JAPANESE REQUIREMENTS AT 11 MBPS. (See submission 802.11/92037)**

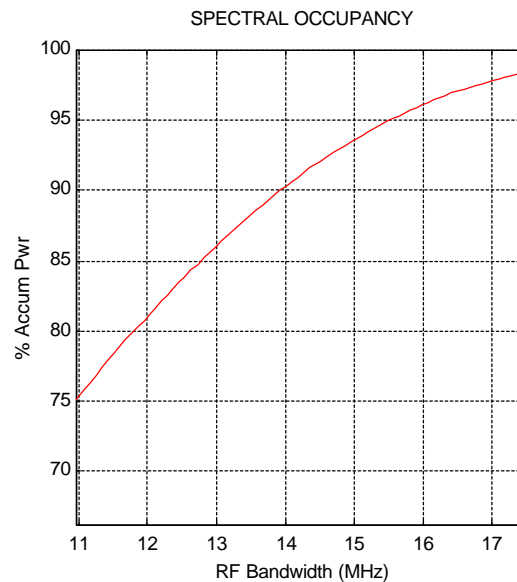
■ **OTHER PROPOSALS MEET IT BUT AT REDUCED DATA RATES.**



**Figure 4.3** Impulse response of the digital FIR pulse-shaping filter.



**Figure 4.4** The spectrum produced by the FIR pulse of Fig. 4.3.



**Figure 4.6** The measured power in the spectrum as a function of bandwidth. 95% of the power is within a bandwidth of 15.5 MHz. The 90% power bandwidth is 14 MHz. This exceeds the spread factor requirement of 13.75 MHz.

## ■ EQUALIZATION/MULTIPATH

- **HARRIS HAS PRESENTED IN DETAIL SIMPLE EQUALIZATION SCHEMES THAT CAN PROVIDE SUFFICIENT MULTIPATH PROTECTION FOR THE MAJORITY OF THE INTENDED APPLICATIONS ( 802.11/92107)**

Range vs. RMS Delay Spread @20% PER

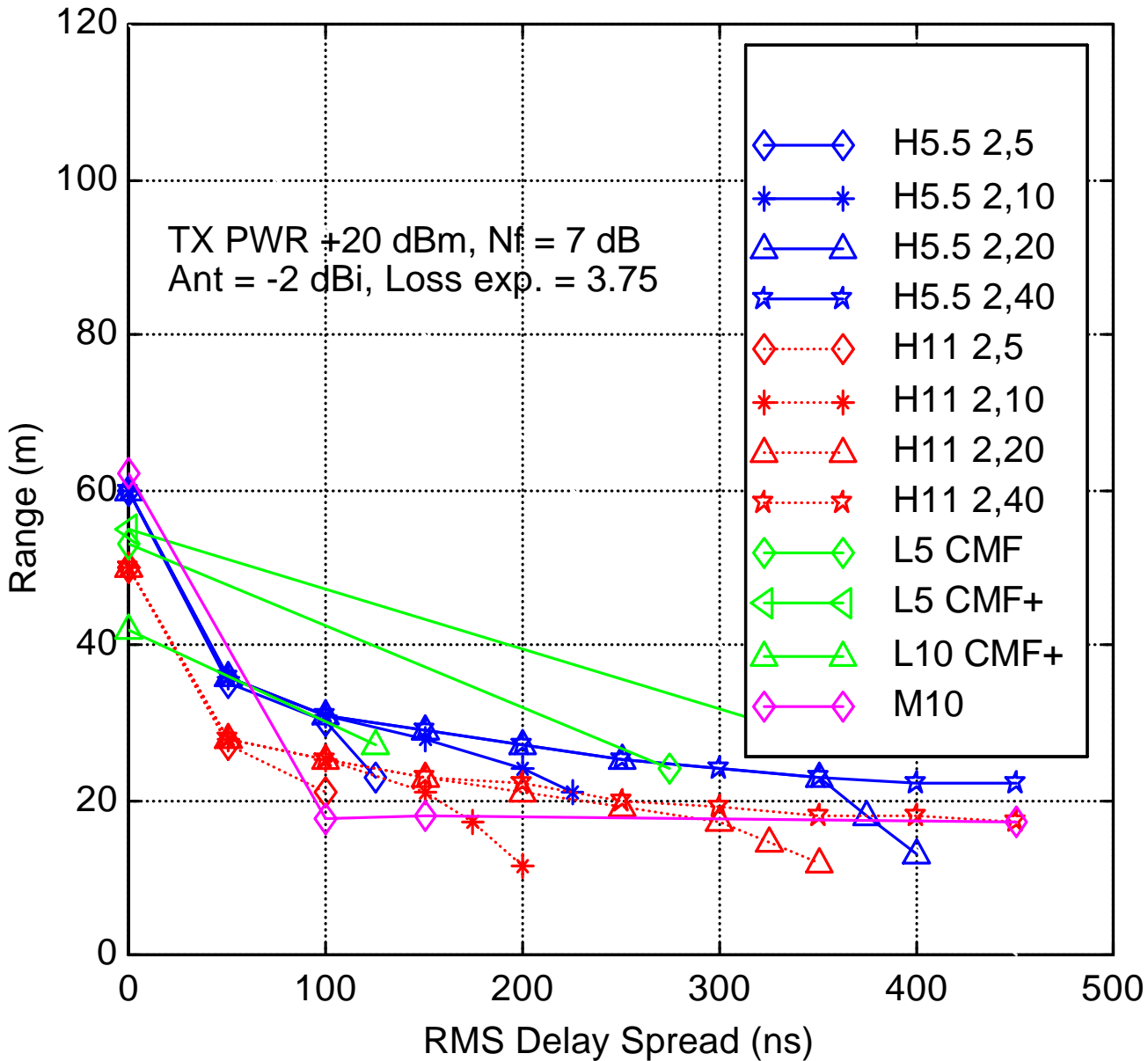


Figure 0-1 Comparison Results w/ Additional points for Harris Proposal

- HARRIS HAS SUGGESTED MORE COMPLEX EQUALIZATION SCHEMES (MLSE) SIMILAR TO OTHER PROPOSALS THAT CAN ACHIEVE THE PERFORMANCE REQUIRED IN MORE DEMANDING ENVIRONMENTS (copes with 3-4 dB lower SNR ).
- HARRIS HAS SUBMITTED SIMULATIONS INDICATING THAT ALL PROPOSED EQUALIZATION

**SCHEMES ARE WITHIN 10 meters RANGE PERFORMANCE.**

- **ALL PROPOSALS CAN MATCH PERFORMANCE WITH VARYING DEGREES OF COMPLEXITY. HARRIS OFFERS THE LEAST COMPLEX SOLUTION.**

### ■ **INTEROPERABILITY**

- **HARRIS HAS STUDIED IN DEPTH THE INTEROPERABILITY QUESTION WITH BOTH DS AND FH.**
- **HARRIS HAS A PATH TO PRACTICAL SOLUTIONS FOR BOTH FH AND DS.**

### ■ **IMPLEMENTATION**

- **HARRIS OFFERS THE LOW RISK SOLUTION.**
- **THE BASIC WAVEFORM HAS BEEN PROVEN TO WORK AND HAS BEEN IMPLEMENTED WITHIN THE COST TARGETS CLAIMED.**
  - **HARRIS AND OTHERS HAVE IMPLEMENTED THE PROPOSED BASIC SOLUTION.**
  - **HARRIS HAS TESTED AND PRESENTED EMPIRICAL DATA OF THE BASIC WAVEFORM.**
  - **THE WAVEFORM HAS BEEN FCC APPROVED.**
  - **THE 3-CHANNEL APPROACH HAS BEEN DEPLOYED AND PROVED VIABLE AS PART OF THE LOW RATE DS 802.11 SYSTEMS.**

### ■ **IP**

- **HARRIS HAS UNQUESTIONABLY THE BEST CASE IP REQUIREMENTS FOR THE 802.11 STANDARD USERS.**
- **THERE ARE NO FEES OR ROYALTIES .**

### **WHAT WE OFFER:**

#### ■ **THE BEST:**

- **ALL-ROUND PERFORMANCE**
- **IMPLEMENTATION**

**■ IP POSITION FOR ALL COMPANIES**