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June 29, 2000

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JUN 29 2000
FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

BY HAND DELIVERY
Ms. Magalie Salas, Secretary
Federal Communications Commission
445 12th Street SW
Washington DC 20554

Re: ET Docket No. 99-231, Amendment of Part 15 of the Commission's Rules Regarding Spread Spectrum Devices — *Ex Parte Filing*

Dear Ms. Salas:

Pursuant to Section 1.1206(a)(2) of the Commission's Rules, I am filing the original and one copy of this letter to report oral ex parte communications in the above-referenced proceeding.

Yesterday and today, Raymond A. Martino of Symbol Technologies, Inc., and I met with Mark Schneider, Peter Tenhula, Clint Odom, Adam Krinsky, Bryan Tramont, and Commissioner Furchtgott-Roth.

Mr. Martino and I expressed Symbol's opposition to the HomeRF proposal in this docket for the reasons laid out in the attached materials and the filings of the Wireless Ethernet Comparability Alliance.

Mr. Martino and I made these additional points:

- The HomeRF product cannot not provide new services or reduce costs. If it could, then Symbol — which makes both direct sequence and frequency hopping devices — would support the proposal and manufacture the product.

- The HomeRF claim that wideband frequency hopping equipment causes no more interference than conventional spread spectrum devices is misleading. Although the levels of interference may be comparable at similar power levels, HomeRF must

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operate at much higher power than conventional devices to achieve the same range and throughput, and so would cause much higher levels of interference in actual practice.

- HomeRF's claim that a rule change is necessary to "level the playing field" between frequency hopping and direct sequence products is also misleading. Both technologies began with the same set of rules and a level playing field, but direct sequence manufacturers were able to increase throughput within those rules.

Kindly date-stamp and return the extra copy of this letter.

If there are any questions about this filing, please call me at the number above.

Respectfully submitted,

Mitchell Lazarus
Counsel for Symbol Technologies, Inc.

ML:deb

Enclosure

cc: Meeting Participants
Mr. Raymond A. Martino

Proposals: HomeRF, Symbol (rejected), and WECA Compromise

	HomeRF Proposal	Symbol Proposal (*rejected* in Docket 96-8) *	WECA Compromise
Hopping bandwidth	3 or 5 MHz	4 MHz	4 MHz
Power	320 mw (for 3 MHz) 200 mw (for 5 MHz) **	200 milliwatts	60 milliwatts
Receiver standards	No	No	Yes
Cap on hopping rate	No	No	Yes
(Bandwith) x (no. hops) must equal or exceed 75?	Yes ***	Yes	No

* "We have serious concerns that implementing Symbol's requested changes could result in severe increases in the potential for harmful interference, both to the authorized radio services **and to other Part 15 devices operating in these bands**." Spread Spectrum Transmitters, 11 FCC Rcd 3068, 3072 at ¶ 23 (1996) (Notice of Proposed Rulemaking, *rejecting* Symbol Technologies, Inc., Petition for Rulemaking, RM -8608).

** A recent OET proposal specified 125 milliwatts at bandwidths over 1 MHz.

*** Not in the current rules, and not in the NPRM.

The FCC Decided this Matter in 1996

- **The FCC turned down a substantially identical proposal for wide band frequency hopping in 1996**
  - The FCC decided the proposed changes would cause harmful interference to existing services, including Part 15.
    - "We have serious concerns that implementing Symbol's requested changes could result in severe increases in the potential for harmful interference, both to the authorized radio services **and to other Part 15 devices operating in these bands**." Spread Spectrum Transmitters, 11 FCC Rcd 3068, 3072 at para. 23 (1996) (Notice of Proposed Rulemaking, *rejecting* Symbol Technologies, Inc., Petition for Rulemaking, RM -8608) (emphasis added).

OET has not Publicly Disputed that HomeRF will Cause Interference

- **OET says only that Part 15 is not entitled to complain of interference.**
  - True, Part 15 must accept interference from equipment <u>operating in compliance with the rules</u>.
  - The Commission has routinely considered interference to Part 15 in the past.
  - In changing the rules, the Commission cannot ignore the economic value in existing Part 15 equipment.
  - Innovators and investors must be able to rely on a stable regulatory environment.
  - HomeRF threatens a $1.5 billion investment made in reliance on the Commission's rules.

Changing the Rules Would Violate the Public Interest

- HomeRF would cause destructive interference to spread spectrum equipment that complies with the present rules.
- A flip flop by the FCC now critically injures services created in reliance on the current rules.
- The reasons the prior Symbol WBFH rulemaking was turned down are more true today. The proliferation of Part 15 devices complying with the existing rules will make interference to important existing services even more common and disruptive.
- It is naive to expect that products based on these new rules will not overlap with existing services. Products and services using the existing rules are used in the home and HomeRF products will be used outside the home.

Existing Part 15 Products and Services are Critical to the Economy

- The innovative products using this band and the current rules are critical in many parts of our life and economy.
- These products are relied on every day in schools, hospitals, offices, factories, warehouses, retail stores to help teach, provide health care, and lower the cost of doing business.
- Bluetooth is expected to be used in every cell phone, every notebook computer, in vending machines, cameras, VCRs, TVs, cordless to cell phone switch over, hot spot Internet connections, home appliances, and more.
- How do we explain to the millions of existing users depending on these services today for critical communications that their services may stop working? – and that their $1.5 billion investment may be stranded.

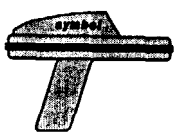
Part 15, 2450 MHz Band Wireless Products In Use Today

Wired LAN Ethernet, Internet

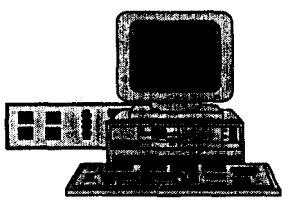
Access Point

Access Point

Access Points Bridge Wired Networks to Wireless Net



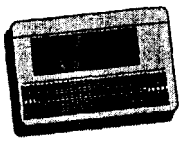
Hand Held Computers for Inventory Systems



Wireless PCs for Offices, Homes,

Palm PC's, Organizers Mobile e-mail and Internet

Wireless Phones and Pagers in the Office and Home using Voice over IP, Internet



Patient monitoring devices

Notebook PCs for wireless network access in the office, home and enterprise

Product Services and Benefits

- **Wireless data collection and on line transactions processing for inventory control.**
  - Lowering the cost of providing goods in retail stores.
  - Lowering the cost and improving the effectiveness of transportation (UPs, Fed Ex, Trucking, …)
  - Lowering the cost of factory goods by improving inventory control and just in time manufacturing.
  - Currently $1 Billion a year of wireless devices are being produced for these markets. Along with the wireless devices themselves many times the $1 B of associated equipment including computers servers, computer SW, and services.
  - Today half the trading on the New York Stock Exchange occurs over Part 15 devices.
  - Wireless computers and computer peripherals lower the cost of providing computers and Internet access to schools by eliminating the need for wiring and allowing easy sharing of computers.

Product Services and Benefits

- Health care wireless devices scan patient bar codes to confirm and track drug doses and enable ordering and delivery of drugs. Doctors have bed side access to records, medical references, lab results and x-rays. These services are reducing the cost and improving the effectiveness of health care.
- Office WLAN lower the cost of in building networks. Also provide mobile network access for internet and e-mail. Wireless voice and paging over the WLAN provide in building wireless voice without wireless service charges.
  - Lowers business cost and improves competitiveness by providing mobile real time network access. This market is forecast to be $1 Billion by 2000.

Reject this NPRM

- **The Commission made the right decision 4 years ago.**
  - The new rules will create interference which will critically harm existing services.
  - The existing products and services are critical in many parts of our life and economy.
  - The NPRM causes only harm and can provide no new value. The needed existing products and services are created and can continue to be created with the existing rules. - There are already ways to achieve high data rate in the 2.4 band and the 5.2 band. The risk of harm from the NPRM far outweighs any potential benefit.