Ms. Marlene H. Dortch, Secretary

Federal Communications Commission

445 12th Street, S.W., Washington, DC 20554 Notice of Oral Ex Parte Presentation

June 2, 2005

Re: In the Matter of

Unlicensed Operation in the 3650-3700 MHz, ET Docket No. 04-151; Additional Spectrum for Unlicensed Devices below 900 MHz and the 3 GHz Band, ET Docket No. 02-380; and Amendment of the Commission's Rules with Regard to the 3650-3700 MHz Government Transfer Band, ET Docket No. 98-237.

On June 2, 2005, Mitch Vine and Keith Doucet representing Redline Communications Inc. met with approximately 8 members of the OET . The purpose of the meeting was to present Redline's view on certain issues related to the 3650 MHz Report and Order released March 16, 2005, and to get a better understanding of the FCC's perspective and intent regarding the contention protocol.

These issues were discussed:

- License exempt techniques have been used with great success, particularly in the rural areas of the country, and WISP's primarily ensured success by voluntary cooperation between WISPs.
- A contention protocol is unnecessary, in the rural areas, and in fact will delay the availability of products in the band, and reduce the choice of devices available for the band
- A contention protocol will not help one technology like Wimax to coexist with another technology like WiFi and there is no process that result in a multi technology protocol in the near term
- A contention protocol is not able to provide adequate quality of service (QoS) in an environment where there is a finite amount of spectrum, and an unknown number of parties sharing the spectrum.
- Redline encouraged the FCC to consider dropping the contention protocol, and proceeding to allow non-exclusive licensing to proceed as quickly as possible in the rural areas.
- For the Top 50 Metropolitan Service Areas (MSA's) urban areas, another approach may be required such as exclusive licensing of the band to guarantee quality of service.
- Redline has an IEEE 802.16 device which could be put into use by operators in the 3650 MHz band within months if it is qualified as acceptable under the commission's rules.

Pursuant to Section 1.1206 of the Commission's Rules, 47 C.F.R. § 1.1206, a copy of this submission is being provided to the above mentioned party. Please contact the undersigned with any questions in connection with this filing.

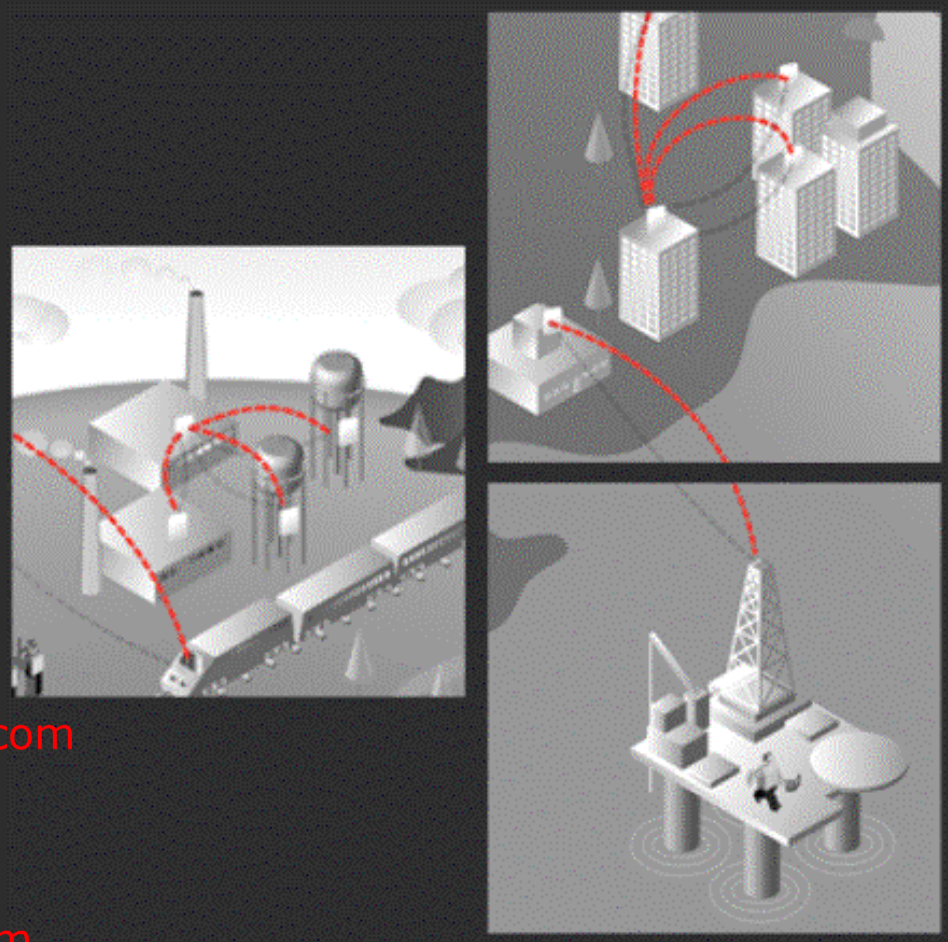
Sincerely,

Mitch Vine, Director of Strategic Marketing

Redline Communications Inc.

302 Town Center Blvd., Markham, Ontario, Canada, L3R0E8

www.redlinecommunications.com



Keith Doucet
VP Marketing
Kdoucet@redlinecommunications.com

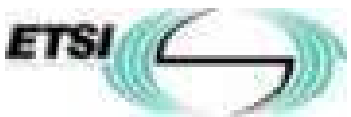
Mitch Vine
Director, Strategic Marketing
mvine@redlinecommunications.com

INTRODUCTION

Redline Communications is a technology leader in the development of standards-based broadband wireless access solutions

- **Established in 1999 – Majority USA owned, headquartered in Toronto, Canada**
- **Technology Leader:**
  - **Shipped first OFDM Broadband System (2002)**
  - **Shipped first 802.16a based product (Nov 2003)**
  - **Will ship first Wimax based product (This Year)**
- **Global Distribution: 80+ channel partners**
- **Deployments: Thousands of 5.8 GHz links in the USA: rural WISPS, regional telcos, school boards, military, industrial, municipalities, cellular backhaul**

MEMBERSHIPS & ASSOCIATIONS



- **Principal member of IEEE 802.16 standards groups**
- **Participating member of ETSI BRAN**
- **Principal member of the WiMAX Forum™**
- **Board Member of WCA**
- **Member of Telecommunications Industry Association**

CURRENT PRODUCT OFFERING

5 GHz Platform

AN-30e

Data + TDM (T1/E1) /Unlicensed

AN-50e

Data/Unlicensed

3.5 GHz 802.16a

AN-100

Data + TDM (T1/E1) /Licensed

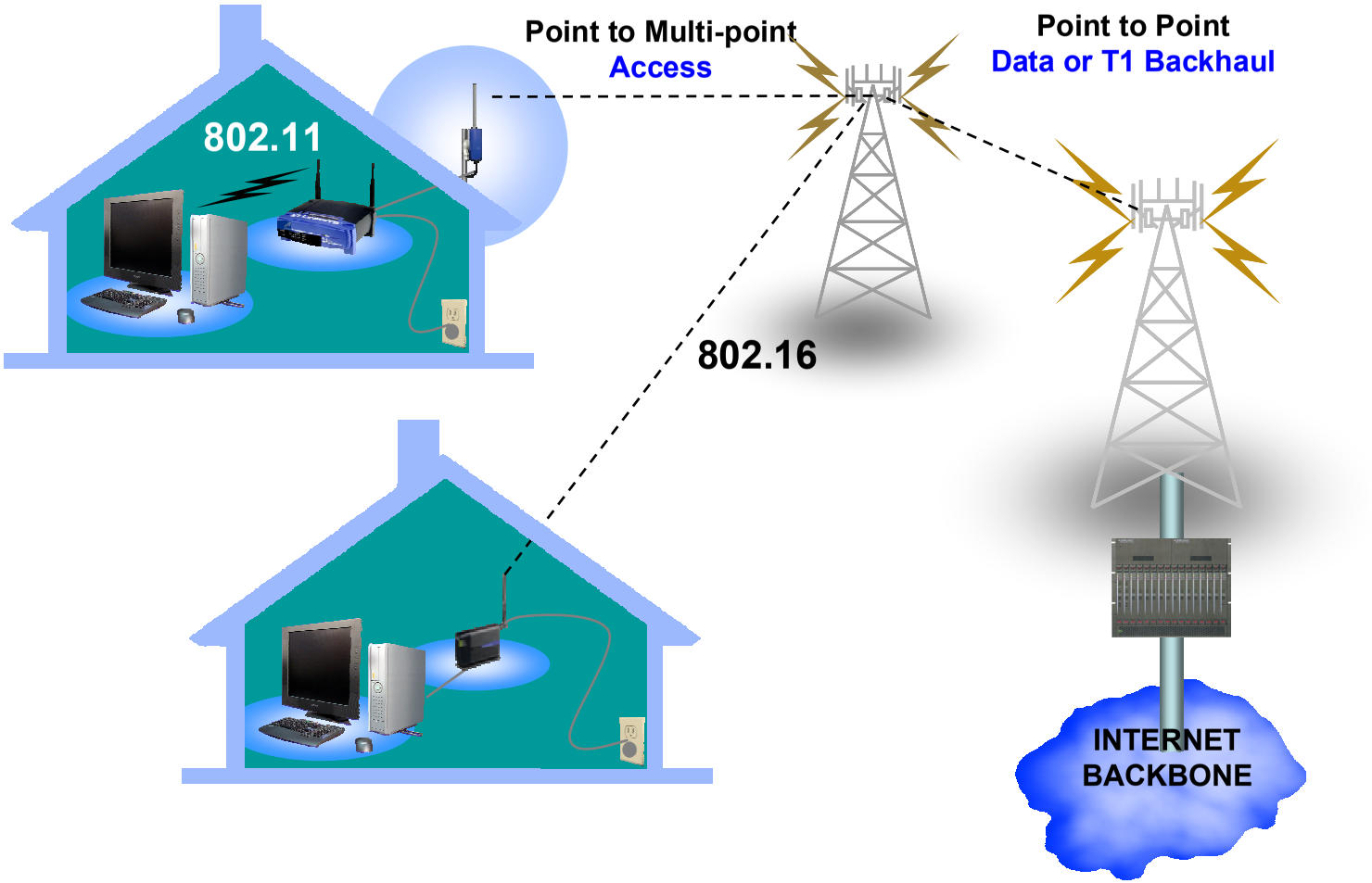
RedAccess NMS

Redline's AN-100

3.65 GHz

- IEEE 802.16a solution, shipping since January 2004
- 3.4-3.6 GHz shipping now, 3.6-3.8 GHz shipping August 2005
- PTP and PMP Backhaul, or High Speed PMP Access Platform
- Channelization 7 and 14 MHz, TDD or Half Duplex FDD
- Data (>50 Mbps net/14 MHz) + TDM (up to 8 T1 ports)
- Power 23 dBm at the base station, 16 dBm at the subscriber station
- Subscriber antennas: 18 or 24 dBm flat panels
- QoS support

Potential Applications – 3.65 GHz Product



Build on Success

- **The Wireless Broadband Access Task Force (Feb 2005) recommended (for unlicensed devices) to build on success by :**
  - **Promote voluntary frequency coordination efforts by private industry**
  - **Promote voluntary industry "best practices"**
  - **Consider increasing the power limits in certain bands**

- **The licensed exempt sector has been very successful**
  - **The non-exclusive license technique should be even more WISP friendly**

The 802.16 Protocol

- **IEEE 802.16a products are shipping now in the 3.4-3.6 GHz band**
  - **IEEE 802.16-2004 products will be shipping later this year in the 3.4-3.6 GHz band**

- **If allowed, the 802.16a, and 802.16-2004 products could be quickly adapted to operate in the 3650 band – providing immediate benefits to users, and defined as one of 3 Wimax profile priorities:**
  1) **3.4-3.6 GHz (3.5 and 7 MHz channels)**
  2) **5.8 GHz (10 GHz channels)**
  3) **2.5 GHz (5 GHz channels)**

- **Redline has developed an 802.16a product at 3.65 GHz which could be used by operators within a few months (if certified)**

General Considerations

- **We would like to propose that IEEE 802.16 devices be identified as meeting the definition of contention**
- **A domestic approach for 3650 MHz is not likely to make it onto the Wimax forum priority list – affecting the breadth of availability of hardware choices**

  - Current Wimax profile priorities:

  1) **3.4-3.6 GHz (3.5 and 7 MHz channels)**
  2) **5.8 GHz (10 GHz channels)**
  3) **2.5 GHz (5 GHz channels)**

- **It would be ideal to keep the rules as close as possible to 3.5 GHz equipment used elsewhere in the world – for common R&D opportunity**

Contention Protocol Issues

Redline supports the intent of Cognitive Radio:

- **Used to arbitrate between spectrum users with well defined rights (such as unlicensed with TV or radar) it can work.**

However

- **Nobody has demonstrated a technique to share a finite amount of spectrum among an indeterminate number of users, over a large area – and still maintain a reasonable level of QoS**

- **Even if it could be made to work….the creation of a multi-technology contention protocol requires study, and may take 2 or 3 years to complete, and currently there is no strong motivation for the 802.11 vendors to co-operate**

- **There are strong opinions that contention will not work – with an acceptable level of QoS -- in congested areas**

Contention Protocol Challenges

- **Incompatibility of current listen-before-talk contention concepts with the scheduled transmission or polling concepts:**
  - **would likely interfere with a scheduled transmission protocol supporting QoS**
- **The requirement to schedule time for other transmissions is not necessary if there are no other systems in operation**
  - **reduces efficiency, particularly in rural areas**
  - **reduces efficiency in high speed PTP links – an area of particular interest to rural WISPS/operators**
- **Devices operating with directional antennas may be shielded from each other**
  - **reducing the ability of the interference detection procedure to sense other devices**
  - **Or alternately a strong transmitter may override other networks operating at lower transmit levels**
- **False positives**
  - **without a rule defining minimum receive thresholds, receivers will unnecessarily sense and react to distant transmitters**

Contention Protocol - Technical Questions

- **We are concerned that IEEE 802.11 devices may be certified early – creating problems for anyone else.**
  - **What if an 802.11 type device is operating in the vicinity of a proprietary or 802.16 device?**
  - **If 802.11/WiFi type devices are allowed to propagate early, especially in urban areas, how will that affect other non-compatible devices to be created later?**

Open Questions

- Do the Section 90.7 rules for contention allow for IEEE 802.16 devices to be used?
  - Redline can provide some 802.16 test devices for study if that would be helpful
- If 802.11/Wi-Fi devices could be made to handle contention with each other but not with other technologies - does that satisfy the requirement?
- If 802.16 devices are able to resolve contention with each other but not with other technologies, does that satisfy the requirement?

POSSIBLE Solutions

- Allow rural areas (defined by RSA's) to use devices as described in the 3650 R&O – without a contention protocol
  - Allows immediate rural implementation
  - Give notice that the FCC reserves the right to required a co-existence protocol in the future
- Use standard regional licensing in urban areas (defined by MSA's)
  - ie 2 x 25 MHz Blocks
  - Implementation in the MSA's could be delayed
- Encourage Industry to begin a process to study co-existence protocols
  - Could be handled at the IEEE 802 level – bringing together 802.11/802.16

Thank You