To: "'tjohnson@AmericanTCB.com'" <tjohnson@AmericanTCB.com>
Cc: Marina Chernyavsky <Marina@hermonlabs.com>, Michael Nikishin
<nikishin@hermonlabs.com>, Elly Gazal <Elly@hermonlabs.com>
Subject: Wave IP,Ltd-Duty cycle

-----Original Message-----
From: Yuri Neuman
Sent: Sunday, January 18, 2004 5:10 PM
To: 'eli@waveip.com'
Subject: HL answer to ATCB comments

Timoty,

You are right that the only difference between Business Subscriber Unit (BSU) and Residential Subscriber Unit (RSU) is the duty cycle, because the hardware for BSU and RSU are identical. The duty cycle for BSU is higher and this is the worst case. GigAccess(tm) 2.4 is point-to-multipoint broadband communication system that consists of an AU (Access Unit) and multiple SUs/RSUs/BSUs (Subscriber Units). The system uses a Physical Layer (PHY) of 802.11b but a MAC layer of 802.16 which utilizes Time Domain Duplex (TDD) technique in order to divide the bandwidth periodically, based on FRAME SIZE of max 5 msec. In typical operation, the above frame size is divided to downlink (DL-for AU transmission) and uplink (UL-for all SUs transmission). The worst case will appears in point-to-point operation in which one SU utilize all the UL. The maximum theoretical transmission duty cycle of the SU declared by the manufacturer is 65%; during the testing in Hermon Labs we did not managed to get transmission duty cycle for SU more than 47%. The operational discription mentions 8.5 Mbit/s data throuput for BSU and 2 Mbit/s for RSU, but this means common data rate (note that for the end user is more interesting downlink data rate than uplink). In our case the maximum theoretical uplink data rate is less than 11 Mbit/s*65%=7.15 Mbit/s.

Best reguards,
Yuri Neuman
Hermon Labs test engineer.