

## 802.16.1 Physical Layer Task Group

### Evaluation Table - Session #5

#	Criterion	Discussion
1	Meets system requirements	How well does the proposed PHY protocol meet the requirements described in the current version of the 802.16.1 Functional Requirements? (See Document IEEE 802.16s-99/00 < <a href="http://grouper.ieee.org/groups/802/16/sysreq/docs/80216s-99_00.pdf">http://grouper.ieee.org/groups/802/16/sysreq/docs/80216s-99_00.pdf</a> >)
2	Spectrum efficiency	Defined in terms of single sector capacity assuming all available spectrum is being utilized (either in terms of Gbps/Available Spectrum or in terms of Mbps/MHz)
3	Simplicity of implementation	How well does the proposed PHY allow for simple implementation or how does it leverage on existing technologies?
4	CPE cost optimization	How does the proposed PHY affect CPE cost?
5	Spectrum resource flexibility	Flexibility in the use of the frequency band (i.e., minimum frequency band required to operate and migration capabilities)
6	System diversity flexibility	How flexible is the proposed PHY to any other system variations and future technology improvements or new services?
7	Protocol Interfacing complexity	Interaction with other layers of the protocol, specifically MAC and NMS
8	Implication on other network interfaces	Intrinsic transport efficiency of telecomm and datacomm services
9	Reference system gain*	Sector coverage performance for a typical BWA deployment scenario (supply, reference system gain)
10	Robustness to interference	Resistance to intra-system interference (i.e., frequency re-use) and external interference cause by other systems
11	Robustness to channel impairments	Rain fading, multipath, atmospheric effects

- In order to compare between PHY proposals, we define the reference system gain (RSG) as the output power of the transmitter minus the receiver threshold at a given working point, including back-off required for proper transmission. We will assume a 0 dBW transmitter (prior to back-off), and an ideal LNA (0 dB NF). Include BER working points of both  $10^{-6}$  and  $10^{-10}$  (post-coding).