

### 802.16 .1 Physical Layer Task Group Evaluation Table - Session #6

#	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 <a href="http://grouper.ieee.org/groups/802/16/sysreq/docs/80216s-99_00.pdf">IEEE 802.16s-99/00</a> ) < <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). Supply details of PHY overhead.
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. Provide the PHY delay.
8	Reference system gain*	Sector coverage performance for a typical BWA deployment scenario (supply, reference system gain). Provide practical link budget analysis.
9	Robustness to interference	Resistance to intra-system interference (i.e., frequency re-use) and external interference cause by other systems. Provide co-channel and adjacent channel interference levels and spectral spillage resulting from modulation.
10	Robustness to channel impairments	Rain fading, multipath, atmospheric effects.
11	Robustness to radio	Specify the degradation due to radio impairments such as phase noise group delay of filters and PA.

\* 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).