Project	**IEEE 802.16 Broadband Wireless Access Working Group <http://ieee802.org/16>**
Title	**System parameters for point to point links for use in Coexistence Simulations**
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Re:	Parameters necessary for preparation of coexistence simulations (output document from coexistence study group at session #14)
Abstract	This document provides tables of parameters and parameter values agreed during session#14, for point to point systems operating in the 23.5-43.5 GHz frequency range. These parameters are relevant to interference calculations and simulation work, in scenarios .
Purpose	To provide a basis for preparation of simulation tools and results, following session # 14 .
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System parameters for point to point links for use in Coexistence Simulations

Introduction

This document provides tables of parameters and parameter values agreed during session#14, for point to point systems operating in the 23.5-43.5 GHz frequency range. These parameters are relevant to interference calculations and simulation work, in scenarios.

Table 1: "multi – link point to point systems"

Characteristic (point to point systems)	**Examples**
Layout of system(s) including diagrams	Quasi – random layout of links
Link lengths	50 to 5000m at 25 GHz 50 to 3000m at 38 GHz
Density of terminal stations	Up to 5/ sq km
Distribution of terminal stations in relation to link length	Uniform (all link lengths have same probability)
Frequency of operation (for each variant to be studied)	25GHz, 38GHz
Duplex method	FDD
Access method	N/A
Receiver parameters	
Channel bandwidth	12.5, 14, 25, 28, 50, 56 MHz Start analysis by assuming 25 MHz
filter response	Root Nyquist, 25% roll-off
noise floor	TBA (6dB noise figure at 25 GHz, 9dB at 38 GHz)
acceptable level for co-channel interference	I/N = -6dB
Transmitter parameters	
Channel bandwidth	12.5, 14, 25, 28, 50, 56 MHz Start by assuming 25 MHz
emission mask	Depends on modulation – to be specified Assume ETSI or FCC (further discussion required)
maximum power	1W?
Typical power	To meet link budget
use of ATPC, steps and range	Uplink and downlink, 2dB steps, 40dB range
Tx-Rx parameters	NFD (net filter discrimination)
Antenna characteristics (station at point of connection to backhaul or core network)	Composite 1 ft antenna as per contribution from RW – note 1
Antenna characteristics (subscriber station)	Composite 1 ft antenna as per contribution from RW - note 1
Antenna characteristics (repeater station)	RPE azimuth plane, RPE elevation plane, gain, steering method
Backhaul links	In – band, separate assignments

Table 2: Discrete point to point links

(where assignments for point to point systems are made in the same frequency bands as FWA systems)

Characteristic (point to point systems)	**Examples**
Layout of system(s) including diagrams	Individual, planned link, coordinated by regulatory body
Link lengths	50 to 5000m at 25 GHz 50 to 3000m at 38 GHz
Density of terminal stations	N/A
Distribution of terminal stations in relation to link length	N/A
Frequency of operation (for each variant to be studied)	25GHz, 38GHz
Duplex method	FDD
Access method	N/A
Receiver parameters	
Channel bandwidth	12.5, 14, 25, 28, 50, 56 MHz Start analysis by assuming 25 MHz
filter response	Root Nyquist, 25% roll-off
noise floor	TBA (6dB noise figure at 25 GHz, 9dB at 38 GHz)
acceptable level for co-channel interference	I/N = -6dB
Transmitter parameters	
Channel bandwidth	12.5, 14, 25, 28, 50, 56 MHz Start by assuming 25 MHz
emission mask	Depends on modulation – to be specified Assume ETSI or FCC (further discussion required)
maximum power	1W?
Typical power	To achieve link budget
use of ATPC, steps and range	Uplink and downlink, 2dB steps, 40dB range
Tx-Rx parameters	NFD (net filter discrimination). Use ETSI values
Antenna characteristics (station at point of connection to backhaul or core network)	Composite 1ft and 2ft antenna(s) as per contribution from RW – note 1
Antenna characteristics (subscriber station)	Composite 1ft and 2ft antenna(s) as per contribution from RW – note 1
Antenna characteristics (repeater station)	N/A
Backhaul links	In – band, separate assignments

Note 1: RW (Bob Whiting) has produced a contribution containing a review of practical antenna RPEs. Composite (worst case) RPEs have been produced.

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