`Project	**IEEE 802.20 Working Group on Mobile Broadband Wireless Access** <**http://grouper.ieee.org/groups/802/20/**>
Title	**Kyocera Responses to the Queries listed in C802.20-06/14r1 on MBTDD 625k-MC Mode**
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Re:	**Queries listed in C802.20-06/14r1**MBWA Call for Proposal
Abstract	This document carries the Kyocera responses to the queries raised on 625k-MC mode that are listed in Document:C802.20-06/14r1.
Purpose	To address the queries on **MBTDD 625k-MC Mode and clarify**
Notice	This document carries the Kyocera responses to the queries raised on 625k-MC mode that are listed in previous contribution:C802.20-06/14r1.
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3.2.2. 625k MC mode

46. For the adaptive array at the BS, 9 or 12 antennas and at the terminal 1, 2 or 4 antennas are employed. What is the adaptive algorithm used? Is it beamforming? What kind of feedback information may be required?

MMSE algorithm is used. Feedback information is not required.
The MBTDD 625k-MC mode's Base Stations have an array of antennas with sophisticated spatial temporal signal processing to manage the transmit and receive signal power. The signal algorithm used for fully adaptive antenna processing enables the system to tune automatically to yield enhanced signal reception by calculating spatio-temporal weights and applying them to received signal. As the system is TDD, the same spatio-temporal weights are applied to signals meant for immediate downlink transmission.

47. Could you provide the performance results of adaptive antenna system at 120 km/h Veh. B? What are the effects of Doppler in the performance?

The downlink performance is affected. For performance results, please refer to Document #s C802.20-05/77, C802.20-06/77r1 and C802.20-06/01.

48. Could you show us the link and system level simulation results as required by the system requirement document and compliance requirement?

For simulation results, please refer to Refer to C802.20-06/77r1 and C802.20-06/01.

49. Could you show the calibration data for C/I distribution as required by performance report 1?

For calibration data for C/I distribution, Refer to C802.20-06/77r1.

50. Why is uplink spectral efficiency shown in section 8 of contribution 05/77 higher than that of downlink, in the case of Vehicular-B channel model?

For adaptive antenna array, the uplink data is used to calculate the weight for downlink transmission as well. Hence the downlink performance is worse due to the time difference.

51. The simulation results of the enhanced system seem to have worst performance than the field data of the base system as shown in section 9, how would you quantify the performance improvement provided by the enhancement in the proposal?

The Field System and Simulation conditions are quite different. Distance of separation between BS to BS in Filed System is much wider than that of simulated model. The simulation environment comprised of 19 cell tri-sectorized lay out, where as the field lay out is different and has only a few cells. As a result, the effect of interference on the target Mobile Terminal in the Field System is small compared to that of simulated system.

52. For the modulation classes 9 & 10, link curves are not provided, and not included in the link budget computation, have they actually be included in the system simulation? If so, what are the probabilities of choosing these modulation classes?

    Please refer to the document C802.20-06/01 and C802.20-06/02 for the link curves of ModClass 9 and 10. In the system level simulation, the selection of ModClasses 9 & 10 is not considered.

53. In the link budget tables, what features contribute to "the other gains"? What type of handoff support is assumed to provide the 2 dB gain?

    Transmission interference suppression gain, array gain and diversity gain of BS side are designated as other gains. In addition, the type of hand off is as defined in Evaluation Criteria Document (as stated in the link budget of EC) and this statistical gain found to be 2dB.

54. What is the proponent's definition of latency? What is the tradeoff of latency versus % of discarded packets?

    The 625k-MC system supports the traffic classes and the related DiffServ QoS conforming to SRD section 4.1. Please refer to Section 24 in Doc# C802.20-06/04. The latency definition is consistent with SRD and Evaluation Criteria. Latency is defined as "Delivery Delay" or " End-to-End Delay" which includes one way delay, Packetization delay, Jitter Buffer delay and Additional Fixed delay if any.

    The tradeoff performance Latency Versus % Discarded Packets was not a requirement under Evaluation Criteria Document. As the 625k-MC system supports prioritization of traffics, air interface latency can be kept to a minimum equal to the frame length for real time services such as VoIP where as latency due to air interface for non real time sessions can be about 4 frames duration.