



February 3, 2010

Via Electronic Filing

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 Twelfth Street, SW, TW – A325
Washington, DC 20554

Re: Written Ex Parte Presentation in WT Docket Nos. 07-195 and 04-356

Dear Ms. Dortch:

M2Z respectfully resubmits the attached ex parte into the records of the above referenced proceedings. M2Z's original submission was made in response to filings from T-Mobile into the record on December 5, 2008.¹ M2Z's calculations, as well as those previously made by T-Mobile, for estimating TDD capacity that could be generated on the AWS-3 band were based on a WiMax TDD system profile.

Sincerely,

A handwritten signature in black ink, appearing to read 'Uzoma C. Onyeije', written over a light blue horizontal line.

Uzoma C. Onyeije

cc: Ruth Milkman Julius Knapp
John Leibovitz Ira Keltz
Blaise Scinto Margaret Weiner
Peter Daronco Gary Michaels
Paul Malmud Stephen Zak
Brian Wondrack Martha Stancill
Kevin Holmes

¹ See Letter from Uzoma C. Onyeije, M2Z to Marlene H. Dortch, Secretary, FCC, WT Docket Nos. 07-196 and 04-356 (filed Dec. 12, 2008) available at: <http://fjallfoss.fcc.gov/ecfs/document/view?id=6520191024>. The *ex parte* compares aggregate broadband capacity generated from TDD and FDD configurations of AWS-3 and AWS-2 when using realistic assumptions for guard bands and spectral efficiency generated by multi-antenna signal processing techniques. See *c.f.* Letter from Kathleen O'Brien Ham, T-Mobile to Marlene H. Dortch, Secretary, FCC, WT Docket Nos. 07-196 and 04-356 (filed Dec. 5, 2008) available at: <http://fjallfoss.fcc.gov/ecfs/document/view?id=6520190015> and Letter from Douglas A. Hyslop, Wireless Strategy, LLC to Marlene H. Dortch, Secretary, FCC, WT Docket Nos. 07-196 and 04-356 (filed Jul. 3, 2008) available at: <http://fjallfoss.fcc.gov/ecfs/document/view?id=6520033142>.

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December 12, 2008

Via Electronic Filing

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 Twelfth Street, SW, TW – A325
Washington, DC 20554

**Re: WT Docket Nos. 07-195 and 04-356 – Notification of Oral Ex Parte
Presentation**

Dear Ms. Dortch:

On December 11, 2008, Paul Kolodzy, and the undersigned on behalf of M2Z Networks, Inc. met with Julius Knapp, Ira Keltz and Bruce Romano from the Office of Engineering and Technology. Enclosed is a presentation used at the meeting that covers the topics discussed.

Pursuant to Section 1.1206(b) of the Commission rules, an electronic copy of this letter is being filed. Please let me know if you have any questions regarding this submission.

Sincerely,

A handwritten signature in black ink, appearing to read 'Uzoma Onyeije', with a long horizontal flourish extending to the right.

Uzoma Onyeije

cc: Mr. Julius Knapp
Mr. Ira Keltz
Mr. Bruce Romano

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Claims of Technical Impediments

1. Old Claim → Asymmetric interference

- Assumption of only mobile-mobile interference → discredited by ITU, UK, and 3GPP indicating that base-base interference more likely, but addressable
- Assumption of likely mobile-mobile interference and required testing → FCC OET report indicating that potential of mobile-mobile interference small

2. New Claim → TDD spectrum plan is less efficient than FDD spectrum plan

- This has been addressed multiple times in this proceeding.

Analysis Assumptions

Issue	T-Mobile Assumption	Fact
Guard Band	10 MHz	<p>Technology Dependent, Analysis indicates as low as 4 MHz. The Market, as with 700 MHz C-Block will determine value</p> <p><i>See FCC OET Advanced Wireless Service Interference Tests Results and Analysis Oct 10, 2008, pgs 12-15</i></p>
TDD Spectral Efficiency	<p>1.71 bps/Hz Downlink 1.15 bps/Hz Uplink</p> <p>(no support for these figures provided)</p>	<p>SDMA and Interference Rejection allow 2x improvement over comparable FDD</p> <p>1.4 * 1.8 = 2.52 bps/Hz Downlink 0.8 * 1.8 = 1.44 bps/Hz Uplink</p> <p>http://www.arraycomm.com/serve.php?page=practice</p>
Spectrum Available	<p>30 MHz for T-Mobile Plan</p> <p>25 MHz for AWS-3 Plan</p>	Need to compare equivalent BW for efficiency

Maximizing Choice and Capacity

		Tech Neutral Plan		T-Mobile Ex Parte		T-Mobile Proposal
		AWS-3	J-Block	AWS-3	J-Block	AWS-3 + J Block
Parameter						
Band		AWS-3	J-Block	AWS-3	J-Block	AWS-3 + J Block
Structure		TDD	TDD	TDD		FDD
Application		Data	Wireless Mic	Data	None	Data
Total Spectrum (MHz)		25	5	25		30
Downlink Analysis	Guard Band (MHz)	4	0	10	0	0
	Usable Spectrum (MHz)	21	5	15	0	25
	Time Division Duplexing	67%	12%	67%	0%	100%
	bps/Hz	2.52	1.4	1.71	0	1.4
	Capacity (Mbps)	35.5	0.84	17.2	0	35
	Total DL Capacity (Mbps)	36.3		17.2		35.0
Uplink Analysis	Guard Band (MHz)	4	0	10	0	4
	Usable Spectrum (MHz)	21	5	15	0	5
	Time Division Duplexing	33%	88%	33%	0%	100%
	bps/Hz	1.44	0.8	1.15	0	0.8
	Capacity (Mbps)	10.0	3.52	5.7	0	4
	Total UL Capacity (Mbps)	13.5		5.7		4.0

- TDD allows for technology neutral selection of communications, a basic tenet of FCC policy
- Direct comparison of 30 MHz solutions clearly indicates Technology Neutral Plan provides over 25% improvement in capacity

Capacity Comparison

Technology Neutral Plan	Technology Neutral Plan (without J-Block)	T-Mobile Proposal
<p>25 MHz AWS TDD</p> <p>5 MHz J-Block TDD</p>	<p>25 MHz AWS-3 TDD</p>	<p>25 MHz AWS-3 FDD</p> <p>5 MHz J-Block FDD</p>
<p>49.8 Mbps</p>	<p>45.5 Mbps</p>	<p>39 Mbps</p>