



Albert Shuldiner  
Vice President & General Counsel

April 17, 2002

William F. Caton  
Acting Secretary  
Federal Communications Commission  
445 Twelfth Street, S.W.  
Washington, D.C. 20445

Re: MM Docket No. 99-325

Dear Mr. Caton:

On behalf of iBiquity Digital Corporation ("iBiquity"), enclosed for filing in this docket is a supplemental report on recent FM tests of the IBOC DAB system. These tests repeated certain tests conducted in 2001 using Generation 1 IBOC hardware. These tests of the Generation 2 hardware confirm that the system continues to provide performance superior to analog FM even with the substitution of the audio compression technology in the system. Any questions concerning this report should be directed to the undersigned.

Respectfully submitted,

A handwritten signature in black ink that reads "Albert Shuldiner". The signature is written in a cursive, flowing style.

Albert Shuldiner



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**FM Laboratory Tests Using Generation 2 Hardware**

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**April 16, 2002**

**iBiquity Digital Corporation**

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This report contains results from recent laboratory tests conducted using iBiquity's Generation 2 hardware. This hardware incorporated iBiquity's audio compression technology rather than the AAC technology used in Generation 1 hardware. Pursuant to the NRSC's test procedures, iBiquity conducted laboratory tests in the presence of AWGN alone and in the presence of AWGN and multipath.

All objective tests and audio recordings were made by the ATTC. Subjective evaluations were conducted by Dynastat. It is important to note that this test report does not compare the results from Generation 1 testing conducted in 2001 against the new Generation 2 hardware test results. Instead, these new tests were conducted using both Generation 1 and Generation 2 hardware in addition to analog receivers. By including both versions of the IBOC system, this test created a direct comparison of the hardware. It also ensured that the same listeners were evaluating all receivers included in this report.

The results confirm that the benefits of FM IBOC noted in iBiquity's earlier reports to the NRSC were replicated in the Generation 2 hardware implementation. The tests demonstrate the Generation 2 hardware provides IBOC performance equivalent to or exceeding the performance of the Generation 1 hardware. In all cases, Generation 2 hardware continues to provide digital performance vastly superior to the performance of the analog receivers.

Appendix A contains the subjective evaluation results. Appendix B contains the ATTC's report on the objective tests.

## **APPENDIX A**

LAB PERFORMANCE - AWGN WITHOUT AND WITH MULTIPATH

Level of			CLASSICAL						ROCK						SPEECH						TOTAL					
AWGN	Multi-path	Data	Gen1	Gen2	Delphi	Pioneer	Sony	Tech	Gen1	Gen2	Delphi	Pioneer	Sony	Tech	Gen1	Gen2	Delphi	Pioneer	Sony	Tech	Gen1	Gen2	Delphi	Pioneer	Sony	Tech
B-2dB		MOS	4.4	4.5	3.45	3.03	3.03	3.18	4.63	4.65	3.85	3.9	3.65	3.95	4.58	4.33	1.53	1.43	1.4	1.4	4.53	4.49	2.94	2.78	2.69	2.84
		C.I.(+/-)	0.25	0.19	0.26	0.3	0.24	0.28	0.15	0.15	0.22	0.24	0.19	0.21	0.2	0.26	0.19	0.17	0.15	0.17	0.12	0.12	0.22	0.23	0.2	0.23
B-8dB	Rural	MOS	4.6	4.35	2.35	2.1			4.65	4.7	3.68	3.53			4.43	4.45	2.1	1.98			4.56	4.5	2.71	2.53		
	Fast	C.I.(+/-)	0.18	0.19	0.24	0.2			0.15	0.16	0.22	0.2			0.18	0.19	0.22	0.2			0.1	0.11	0.18	0.17		
	Terrain	MOS	4.6	4.6	2.38	1.8			4.6	4.53	2.73	2.48			4.5	4.28	1.8	1.83			4.57	4.47	2.3	2.03		
	Obs	C.I.(+/-)	0.2	0.17	0.24	0.27			0.15	0.2	0.22	0.21			0.2	0.24	0.22	0.21			0.11	0.12	0.15	0.14		
	Urban	MOS	3.98	4.15	2.7	2.23			4.53	4.53	2.85	3.05			4.75	4.78	2.13	1.78			4.42	4.48	2.56	2.21		
	Fast	C.I.(+/-)	0.28	0.21	0.21	0.2			0.17	0.17	0.21	0.2			0.14	0.13	0.21	0.24			0.13	0.11	0.13	0.17		

