NRSC REPORT

NATIONAL RADIO SYSTEMS COMMITTEE

NRSC-R201
FM Industry Evaluation
November 7, 2001

NAB: 1771 N Street, N.W.
Washington, DC 20036
Tel: (202) 429-5356 Fax: (202) 775-4981

CEA: 1919 South Eads Street
Arlington, VA 22202
Tel: (703) 907-7660 Fax: (703) 907-8113

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FOREWORD

NRSC-R201, FM Industry Evaluation, documents an audio subjective evaluation study conducted on iBiquity's FM IBOC system using NRSC members as test subjects, conducted September 5-7, 2001 at the NAB Radio Show in New Orleans, LA. The DAB Subcommittee chairman at the time of adoption of NRSC-R201 was Milford Smith; the NRSC chairman at the time of adoption was Charles Morgan.

The NRSC is jointly sponsored by the Consumer Electronics Association and the National Association of Broadcasters. It serves as an industry-wide standards-setting body for technical aspects of terrestrial over-the-air radio broadcasting systems in the United States.

November 7, 2001

To: NRSC Evaluation Working Group

From: iBiquity Digital Corporation

Re: FM Industry Evaluation

Attached to this memorandum are the results from the NRSC FM Industry Evaluation conducted September 5-7, 2001 at the NAB Radio Show in New Orleans. Sixty-one participants were trained, screened and tested. Of these 61 participants, 3 were excluded for failing the screening test, and 2 were excluded for not finishing the experiment. Thus, results from 56 participants are reported in the attached NRSC Industry Evaluation Performance and Compatibility Tables. Fifty-five males and 1 female participated. Table 1 is a breakdown of participants by age.

Table 1: Breakdown of participants by age

18-29	1
30-39	14
40-49	27
50-59	17
60+	2

Jennifer Devlin and Ellyn Sheffield of iBiquity conducted all training, screening and testing. All methodological practices used at Dynastat during the FM Test Program were followed as closely as possible, including method of presentation, analysis of screening results, and preparation of results (i.e., tables with confidence intervals).

A subset of the sound samples evaluated at Dynastat in the overall subjective evaluation program was compiled for the Industry Evaluation. Samples were taken from the field performance, field compatibility, lab performance and lab compatibility portions of the test program. No SCA audio samples were included. Samples were divided into three experiments, leveled and presented to participants over Sennheiser headphones. Data from all experiments were combined for analysis after testing was completed.

8865 Stanford Boulevard • Suite 202 • Columbia, Maryland 21045 • Phone 410 872 1530 • Fax 410 872 1560

FIELD PERFORMANCE WITH 1st ADJACENT INTERFERENCE (INDUSTRY EVALUATION)

			Classical			Country/Rock			Speech/VoiceOver		
Receiver	**D/U**	**Data**	**IBOC**	**Delphi**	**Pioneer**	**IBOC**	**Delphi**	**Pioneer**	**IBOC**	**Delphi**	**Pioneer**
WETA	+23	MOS	4.6	3.9	3.8						
		Confid Interval (+/-)	0.15	0.26	0.22						
	+22	MOS							4.6	4.1	3.9
		Confid Interval (+/-)							0.62	0.72	0.85
	+20	MOS	4.6	2.9	3.0						
		Confid Interval (+/-)	0.22	0.28	0.30						
	+19	MOS							3.2	1.9	1.7
		Confid Interval (+/-)							0.41	0.28	0.30
	+14	MOS	4.6	2.4	2.6						
		Confid Interval (+/-)	0.31	0.36	0.36						
	+9	MOS							4.8	2.9	3.0
		Confid Interval (+/-)							0.28	0.35	0.36
WNEW	+16	MOS							3.8	1.5	1.1
		Confid Interval (+/-)							0.34	0.28	0.10
	+13	MOS							3.3	1.6	1.3
		Confid Interval (+/-)							0.49	0.27	0.21
WPOC	+19	MOS							4.0	4.1	3.9
		Confid Interval (+/-)							0.42	0.25	0.43
	+16	MOS				4.9	4.5	4.5			
		Confid Interval (+/-)				0.13	0.26	0.26			
	+13	MOS				4.4	3.9	3.7			
		Confid Interval (+/-)				0.29	0.31	0.39			

FIELD PERFORMANCE WITH 2nd ADJACENT INTERFERENCE (INDUSTRY EVALUTAION)

	Lower/			Classical			Country/Rock			Speech/VoiceOver		
Station	**Upper**	**D/U dB**	**Data**	**IBOC**	**Delphi**	**Pioneer**	**IBOC**	**Delphi**	**Pioneer**	**IBOC**	**Delphi**	**Pioneer**
KLLC	Upper	-28	MOS				2.8	2.5	1.5			
			CI (+/-)				0.61	0.25	0.31			
		-23	MOS				2.9	2.3	2.1			
			CI (+/-)				0.49	0.3	0.28			
		-21	MOS				3.0	2.2	2.0			
			CI (+/-)				0.59	0.36	0.39			
		-19	MOS							3.0	1.7	1.4
			CI (+/-)							0.56	0.25	0.22
		-18	MOS				3.1	2.1	1.8			
			CI (+/-)				0.38	0.33	0.28			
		-17	MOS							2.6	1.6	1.4
			CI (+/-)							0.47	0.31	0.25
WD2XAB	Lower	-2	MOS	4.5	2.4	2.1						
			CI (+/-)	0.4	0.36	0.5						
WNEW	Lower	-18	MOS							3.4	3.0	3.1
			CI (+/-)							0.26	0.31	0.37

ACENT INTERFERERS (INDUSTRY EVALUATION)

Upper	Lower	Data	Rock IBOC	Rock Delphi	Rock Pioneer	Voice Over IBOC	Voice Over Delphi	Voice Over Pioneer
-31	-25	MOS	3.8	3.0	3.3			
		Confid Interval (+/-)	0.52	0.40	0.55			
-26	-33	MOS	4.0	3.3	3.8			
		Confid Interval (+/-)	0.42	0.39	0.47			
-24	-22	MOS				4.1	3.7	3.6
		Confid Interval (+/-)				0.26	0.29	0.27
-24	-12	MOS	3.9	2.2	1.9			
		Confid Interval (+/-)	0.40	0.32	0.38			
-18	-15	MOS	4.1	3.4	3.7			
		Confid Interval (+/-)	0.34	0.35	0.37			
-15	-33	MOS	3.6	2.9	2.6			
		Confid Interval (+/-)	0.27	0.28	0.31			
-14	-11	MOS				3.6	2.9	2.8
		Confid Interval (+/-)				0.37	0.33	0.42

FIELD PERFORMANCE AT BLEND (INDUSTRY EVALUATION)

	Classical			Rock			Speech		
	IBOC	**Delphi**	**Pioneer**	**IBOC**	**Delphi**	**Pioneer**	**IBOC**	**Delphi**	**Pioneer**
MOS	2.9	2.3	2.2	3.7	3.2	3.6	2.5	2.2	2.1
Confid Interval (+/-)	0.21	0.20	0.21	0.22	0.28	0.25	0.28	0.31	0.24

FIELD PERFORMANCE WITH MULTIPATH (INDUSTRY EVALUATION)

				Country			Rock			Voice Over			Speech		
Station	**Mutipath**	**Instensity**	**Data**	**IBOC**	**Delphi**	**Pioneer**	**IBOC**	**Delphi**	**Pioneer**	**IBOC**	**Delphi**	**Pioneer**	**IBOC**	**Delphi**	**Pioneer**
KLLC	Terrain	Light	MOS				4.7	3.5	3.9						
	Obstruct		CI (+/-)				0.23	0.47	0.40						
		Mod	MOS				4.4	2.4	2.6	4.7	2.6	2.2			
			CI (+/-)				0.16	0.21	0.20	0.20	0.35	0.36			
		Severe	MOS				3.8	2.8	2.4						
			CI (+/-)				0.20	0.21	0.30						
KWNR	Spectral	Light	MOS	4.1	4.0	4.1				4.2	3.0	3.1			
			CI (+/-)	0.28	0.34	0.35				0.66	0.63	0.57			
		Mod	MOS	3.9	2.4	2.2				3.3	2.4	2.1			
			CI (+/-)	0.26	0.20	0.20				0.45	0.37	0.19			
		Severe	MOS	3.9	2.4	2.2				3.7	2.3	1.7	3.7	2.3	1.5
			CI (+/-)	0.37	0.35	0.29				0.47	0.31	0.29	0.33	0.21	0.20

FIELD COMPATIBILITY - HOST (INDUSTRY EVALUATION)

		Classical		Country/Rock		Speech	
		No IBOC	IBOC	No IBOC	IBOC	No IBOC	IBOC
Delphi	MOS	3.7	4.0	3.6	4.0	3.1	3.4
	Confid Interval (+/-)	0.53	0.31	0.37	0.29	0.39	0.35
Pioneer	MOS	4.1	4.3	4.1	4.2	3.2	3.1
	Confid Interval (+/-)	0.33	0.39	0.38	0.32	0.35	0.32
Sony	MOS	3.8	3.9	4.1	4.2	2.4	2.6
	Confid Interval (+/-)	0.33	0.46	0.40	0.32	0.34	0.41
Technics	MOS	4.1	4.3	3.8	3.6	3.2	3.2
	Confid Interval (+/-)	0.35	0.30	0.26	0.39	0.38	0.38

FIELD COMPATIBILITY - 1ST ADJACENT INTERFERENCE (INDUSTRY EVALUATION)

Receiver	D/U	Data	Classical No IBOC	Classical IBOC	Country/Rock No IBOC	Country/Rock IBOC	Speech No IBOC	Speech IBOC
Delphi	+6	MOS			3.7	3.6		
		Confid Interval (+/-)			0.33	0.37		
	-4	MOS			3.0	3.0		
		Confid Interval (+/-)			0.36	0.39		
	-6	MOS					2.6	2.5
		Confid Interval (+/-)					0.43	0.31
	-9	MOS	3.2	3.3				
		Confid Interval (+/-)	0.38	0.43				
	-11	MOS			3.3	3.1		
		Confid Interval (+/-)			0.37	0.36		
	-14	MOS			2.4	3.0		
		Confid Interval (+/-)			0.36	0.44		
Pioneer	+6	MOS			4.0	4.1		
		Confid Interval (+/-)			0.40	0.35		
	-4	MOS			3.4	3.1		
		Confid Interval (+/-)			0.42	0.37		
	-6	MOS					1.9	2.2
		Confid Interval (+/-)					0.28	0.37
	-9	MOS	2.6	2.6				
		Confid Interval (+/-)	0.31	0.31				
	-11	MOS			3.9	3.5		
		Confid Interval (+/-)			0.25	0.42		
	-14	MOS			3.5	2.8		
		Confid Interval (+/-)			0.44	0.49		
Sony	+6	MOS			3.0	3.1		
		Confid Interval (+/-)			0.37	0.46		
Technics	+6	MOS			4.0	4.1		
		Confid Interval (+/-)			0.42	0.42		

FIELD COMPATIBILITY - 1st ADJACENT MULTIPATH (INDUSTRY EVALUATION)

			Country/Rock	
Receiver	**D/U**	**Data**	**No IBOC**	**IBOC**
Delphi	-1	MOS	2.8	3.1
		Confid Interval (+/-)	0.61	0.40
	-9	MOS	3.1	3.0
		Confid Interval (+/-)	0.38	0.34
Pioneer	-1	MOS	3.4	2.8
		Confid Interval (+/-)	0.51	0.37
	-9	MOS	3.4	3.1
		Confid Interval (+/-)	0.42	0.31

LAB PERFORMANCE - AWGN WITHOUT AND WITH MULTIPATH (INDUSTRY EVALUATION)

Level of			CLASSICAL			ROCK			SPEECH		
AWGN	**Multipath Type**	**Data**	**IBOC**	**Delphi**	**Pioneer**	**IBOC**	**Delphi**	**Pioneer**	**IBOC**	**Delphi**	**Pioneer**
B-2dB	Rural Fast	MOS	4.7	2.2	2.2						
		Confid Interval (+/-)	0.25	0.29	0.35						
	Terrain Obstructed	MOS							4.7	1.8	1.8
		Confid Interval (+/-)							0.25	0.27	0.23
	Urban Fast	MOS				4.6	3.6	3.5			
		Confid Interval (+/-)				0.25	0.43	0.31			
	Urban Slow	MOS				4.9	2.8	3.3			
		Confid Interval (+/-)				0.20	0.32	0.41			

LAB PERFORMANCE - CO CHANNEL, SINGLE AND DUAL ADJ (INDUSTRY EVALUATION)

1st	Level of	2nd	D/U of		CLASSICAL					ROCK			
Interferer	1st interfer	interferer	2nd interferer	Data	IBOC	Delphi	Pioneer	Sony	Technics	IBOC	Delphi	Sony	Technics
Co-Channel	b-2dB			MOS	4.0	failure	1.1	failure	1.0				
				CI (+/-)	0.54		0.13		0.09				
Lower 1st Adj	b-2dB			MOS						4.7	1.0	1.0	failure
				CI (+/-)						0.20	0.00	0.00	
		Upper 1st	+6db	MOS	3.9	4.0	4.1	1.1	2.3				
				CI (+/-)	0.47	0.47	0.55	0.17	0.42				
Lower 2nd Adj	b-2dB	Upper 1st	+6db	MOS	3.9	failure	failure	failure	2.7				
				CI (+/-)	0.47				0.46				
		Upper 2nd	-20dB	MOS	4.4	failure	failure	failure	2.6				
				CI (+/-)	0.27				0.35				

LAB PERFORMANCE - CO and 1ST ADJACENT WITH MULTIPATH (INDUSTRY EVALUATION)

1st Interferer	Level of interfer	2nd interferer	D/U of 2nd interfer	Type multi path	Data	CLASSICAL IBOC	CLASSICAL Delphi	CLASSICAL Pioneer	ROCK IBOC	ROCK Delphi	ROCK Pioneer
Co-Channel	B-8dB			RF	MOS				4.5	1.1	1.0
					CI (+/-)				0.31	0.16	0.10
				TO	MOS	4.6	1.2	1.1			
					CI (+/-)	0.22	0.17	0.14			
				US	MOS				3.5	1.1	1.1
					CI (+/-)				0.39	0.16	0.21
				UF	MOS	4.3	1.0	1.0			
					CI (+/-)	0.38	0.00	0.00			
Lower 1st Adj	B-8dB			RF	MOS	4.6	1.7	1.6			
					CI (+/-)	0.23	0.33	0.27			
				UF	MOS				4.7	2.0	2.1
					CI (+/-)				0.25	0.32	0.37
				US	MOS	4.3	2.1	2.7			
					CI (+/-)	0.37	0.28	0.30			
				TO	MOS				4.1	1.9	2.1
					CI (+/-)				0.25	0.22	0.30
		Upper 1st	+6	RF	MOS	4.6	2.9	3.2			
					CI (+/-)	0.25	0.33	0.48			
				TO	MOS	3.8	1.2	1.2			
					CI (+/-)	0.48	0.20	0.18			
				UF	MOS	3.9	3.6	3.9			
					CI (+/-)	0.33	0.34	0.44			
				US	MOS	4.4	2.9	3.2			
					CI (+/-)	0.36	0.35	0.32			

1st Interferer	Level of interfer	2nd interferer	D/U of 2nd interfer	Type multi path	Data	CLASSICAL IBOC	CLASSICAL Delphi	CLASSICAL Pioneer	ROCK IBOC	ROCK Delphi	ROCK Pioneer
Lower 2nd Adj	B-8dB			RF	MOS				4.4	2.8	2.8
					CI (+/-)				0.30	0.34	0.34
				TO	MOS	3.9	2.4	2.2			
					CI (+/-)	0.42	0.34	0.38			
				US	MOS				4.5	3.6	3.9
					CI (+/-)				0.31	0.41	0.50
				UF	MOS				4.7	4.3	4.2
					CI (+/-)				0.30	0.42	0.20
	B-8dB	Upper 1st	+6	RF	MOS				4.9	3.7	4.0
					CI (+/-)				0.10	0.42	0.42
				UF	MOS	4.4	3.2	2.0			
					CI (+/-)	0.36	0.37	0.51			
				US	MOS				3.5	3.1	3.0
					CI (+/-)				0.39	0.29	0.36
		Upper 2nd	-20	RF	MOS	4.8	2.4	1.4			
					CI (+/-)	0.19	0.31	0.23			
				TO	MOS				4.3	2.3	2.4
					CI (+/-)				0.33	0.35	0.36
				UF	MOS				4.6	3.4	3.3
					CI (+/-)				0.27	0.30	0.55
				US	MOS	4.1	3.2	3.3			
					CI (+/-)	0.38	0.46	0.43			

LAB PERFORMANCE - IMPULSE NOISE (INDUSTRY EVALUATION)

	Level of		Level of		CLASSICAL		
Interferer	**interferer (dB)**	**AWGN**	**AWGN**	**Data**	**IBOC**	**Delphi**	**Pioneer**
		120Hz	B-2dB	MOS	4.8	3.1	4.1
				CI (+/-)	0.17	0.35	0.32
		330Hz	B-2dB	MOS	4.8	3.1	3.9
				CI (+/-)	0.17	0.49	0.43
		RPRF	B-2dB	MOS	4.4	3.0	3.0
				CI (+/-)	0.23	0.34	0.37
		2000Hz	B-2dB	MOS	4.7	3.8	3.4
				CI (+/-)	0.23	0.38	0.43
Upper 1st	+6	120Hz	B-2dB	MOS	4.3	2.4	2.8
				CI (+/-)	0.33	0.43	0.61

LAB COMPATIBILITY - HOST (INDUSTRY EVALUATION)

Rx	AWGN	Data	Rock No IBOC	Rock IBOC	Speech No IBOC	Speech IBOC
Delphi	No Noise	MOS			4.0	3.9
		Confid Interval (+/-)			0.37	0.37
	30K	MOS	4.8	4.6		
		Confid Interval (+/-)	0.24	0.34		
Pioneer	No Noise	MOS			4.1	4.0
		Confid Interval (+/-)			0.30	0.43
	30K	MOS	4.5	4.7		
		Confid Interval (+/-)	0.28	0.20		
Sony	No Noise	MOS			3.9	2.6
		Confid Interval (+/-)			0.37	0.39
	30K	MOS	4.3	4.4		
		Confid Interval (+/-)	0.37	0.46		
Technics	No Noise	MOS			4.0	3.9
		Confid Interval (+/-)			0.34	0.34
	30K	MOS	4.5	4.7		
		Confid Interval (+/-)	0.35	0.26		

LAB COMPATIBILITY - 2ND ADJACENT INTERFERENCE (INDUSTRY EVALUATION)

	Upper/Lowe	D/U dB	AWGN	Data	Classical No IBOC	Classical IBOC	Rock No IBOC	Rock IBOC	Speech No IBOC	Speech IBOC
Delphi	Lower	-40	No Noise	MOS			3.9	3.7		
				Confid Interval (+/-)			0.29	0.32		
			30K	MOS					4.2	3.9
				Confid Interval (+/-)					0.31	0.27
		-20	30K	MOS			4.6	4.7		
				Confid Interval (+/-)			0.31	0.23		
	Upper	-40	No Noise	MOS					4.1	4.3
				Confid Interval (+/-)					0.29	0.28
			30K	MOS			4.1	3.8		
				Confid Interval (+/-)			0.31	0.43		
		-20	30K	MOS	4.6	4.3				
				Confid Interval (+/-)	0.61	0.67				
Pioneer	Lower	-40	No Noise	MOS			3.8	3.3		
				Confid Interval (+/-)			0.33	0.35		
			30K	MOS					4.0	4.0
				Confid Interval (+/-)					0.33	0.25
		-20	30K	MOS			4.8	4.6		
				Confid Interval (+/-)			0.20	0.25		
	Upper	-40	No Noise	MOS					4.2	4.2
				Confid Interval (+/-)					0.31	0.27
			30K	MOS			3.9	3.9		
				Confid Interval (+/-)			0.41	0.39		
		-20	30K	MOS	4.4	4.2				
				Confid Interval (+/-)	0.69	0.96				
Sony	Lower	-20	30K	MOS			3.5	1.8		
				Confid Interval (+/-)			0.51	0.38		
	Upper	-20	30K	MOS	2.2	1.9				
				Confid Interval (+/-)	0.83	0.52				
Technics	Lower	-40	No Noise	MOS			3.7	1.2		
				Confid Interval (+/-)			0.37	0.19		
			30K	MOS					2.7	1.3
				Confid Interval (+/-)					0.36	0.21
		-20	30K	MOS			4.4	4.5		
				Confid Interval (+/-)			0.40	0.25		

	Upper	-20	30K	MOS	4.6	4.5		
				Confid Interval (+/-)	0.22	0.27		

LAB COMPATIBILITY --1ST ADJACENT INTERFERENCE (INDUSTRY EVALUTION)

	Condition	D/U dB	AWGN	Data	Classical No IBOC	Classical IBOC	Rock No IBOC	Rock IBOC	Speech No IBOC	Speech IBOC
Delphi	Lower	+16	No Noise	MOS	4.6	4.2				
				Confid Interval (+/-)	0.30	0.27				
			30K	MOS					3.5	3.2
				Confid Interval (+/-)					0.26	0.33
		+6	30K	MOS	4.1	2.9				
				Confid Interval (+/-)	0.35	0.31				
		-4	No Noise	MOS			4.4	3.8		
				Confid Interval (+/-)			0.35	0.37		
			30K	MOS			3.9	3.2		
				Confid Interval (+/-)			0.29	0.48		
	Upper	+16	30K	MOS			4.4	4.3		
				Confid Interval (+/-)			0.30	0.38		
			No Noise	MOS			4.2	4.6		
				Confid Interval (+/-)			0.37	0.31		
		+6	30K	MOS					3.5	2.1
				Confid Interval (+/-)					0.41	0.35
		-4	No Noise	MOS			4.5	3.9		
				Confid Interval (+/-)			0.27	0.35		
			30K	MOS	3.8	1.4				
				Confid Interval (+/-)	0.45	0.31				
Pioneer	Lower	+16	No Noise	MOS	4.7	4.3				
				Confid Interval (+/-)	0.23	0.33				
			30K	MOS					3.3	2.6
				Confid Interval (+/-)					0.34	0.35
		+6	30K	MOS	3.9	2.8				
				Confid Interval (+/-)	0.38	0.35				
		-4	No Noise	MOS			4.5	3.6		
				Confid Interval (+/-)			0.31	0.47		
			30K	MOS			4.0	3.8		
				Confid Interval (+/-)			0.39	0.33		
	Upper	+16	30K	MOS			4.5	4.1		
				Confid Interval (+/-)			0.37	0.44		
			No Noise	MOS			4.1	4.0		

				Confid Interval (+/-)			0.46	0.44		
		+6	30K	MOS					3.4	2.0
				Confid Interval (+/-)					0.33	0.28
		-4	No Noise	MOS			4.4	3.4		
				Confid Interval (+/-)			0.30	0.42		
			30K	MOS	3.6	1.4				
				Confid Interval (+/-)	0.44	0.36				

Sony	Lower	+16	No Noise	MOS	3.1	2.9				
				Confid Interval (+/-)	0.73	0.55				
			30K	MOS					2.0	2.0
				Confid Interval (+/-)					0.32	0.29
		+6	30K	MOS	1.4	1.4				
				Confid Interval (+/-)	0.27	0.22				
		-4	No Noise	MOS			1.1	1.0		
				Confid Interval (+/-)			0.17	0.00		
			30K	MOS			2.0	1.6		
				Confid Interval (+/-)			0.38	0.26		
	Upper	+16	30K	MOS			2.9	3.2		
				Confid Interval (+/-)			0.45	0.43		
			No Noise	MOS			3.9	3.8		
				Confid Interval (+/-)			0.47	0.46		
		+6	30K	MOS					1.3	1.3
				Confid Interval (+/-)					0.21	0.20
		-4	No Noise	MOS			1.9	1.7		
				Confid Interval (+/-)			0.25	0.25		
			30K	MOS	1.0	1.0				
				Confid Interval (+/-)	0.00	0.00				
Technics	Lower	+16	No Noise	MOS	4.6	4.6				
				Confid Interval (+/-)	0.25	0.25				
			30K	MOS					3.5	3.1
				Confid Interval (+/-)					0.38	0.37
		+6	30K	MOS	3.3	3.2				
				Confid Interval (+/-)	0.33	0.30				
		-4	No Noise	MOS			4.2	4.1		
				Confid Interval (+/-)			0.27	0.33		
			30K	MOS			3.8	4.0		
				Confid Interval (+/-)			0.44	0.29		
	Upper	+16	30K	MOS			4.4	3.9		
				Confid Interval (+/-)			0.37	0.32		
			No Noise	MOS			3.9	3.8		
				Confid Interval (+/-)			0.38	0.41		
		+6	30K	MOS					2.1	1.8
				Confid Interval (+/-)					0.31	0.31
		-4	No Noise	MOS			3.7	3.4		

				Confid Interval (+/-)			0.33	0.33
			30K	MOS	1.5	1.3		
				Confid Interval (+/-)	0.36	0.22		

LAB COMPATIBILITY - MULTIPATH (INDUSTRY EVALUATION)

Urban Fast										
	Lower/				Classical		Rock		Speech	
	Upper	D/U dB	AWGN	Data	No IBOC	IBOC	No IBOC	IBOC	No IBOC	IBOC
Dephi	Lower	+6	00K	MOS	2.6	1.8				
				Confid Interval (+/-)	0.36	0.28				
			30K	MOS			3.7	2.7		
				Confid Interval (+/-)			0.37	0.32		
	Upper	+6	00K	MOS			3.6	3.4		
				Confid Interval (+/-)			0.40	0.34		
			30K	MOS	2.4	1.5				
				Confid Interval (+/-)	0.31	0.25				
Pion	Lower	+6	00K	MOS	3.1	1.6				
				Confid Interval (+/-)	0.30	0.30				
			30K	MOS			3.7	2.6		
				Confid Interval (+/-)			0.40	0.45		
	Upper	+6	00K	MOS			3.3	3.6		
				Confid Interval (+/-)			0.41	0.33		
			30K	MOS	2.6	1.4				
				Confid Interval (+/-)	0.31	0.31				
Urban Slow										
Delp	Lower	+6	00k	MOS	2.8	1.9				
				Confid Interval (+/-)	0.42	0.28				
			30K	MOS					2.9	2.2
				Confid Interval (+/-)					0.35	0.33
	Upper	+6	00K	MOS			3.5	3.6		
				Confid Interval (+/-)			0.40	0.42		
			30K	MOS	2.9	2.2				
				Confid Interval (+/-)	0.40	0.37				
Pion	Lower	+6	00K	MOS	3.4	2.0				
				Confid Interval (+/-)	0.25	0.31				
			30K	MOS					2.7	1.7
				Confid Interval (+/-)					0.35	0.31
	Upper	+6	00K	MOS			4.2	3.8		
				Confid Interval (+/-)			0.31	0.45		

			30K	MOS	3.1	2.0		
				Confid Interval (+/-)	0.30	0.40		

NRSC Document Improvement Proposal

If in the review or use of this document a potential change appears needed for safety, health or technical reasons, please fill in the appropriate information below and email, mail or fax to:

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Technology & Standards Department
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Email: standards@ce.org

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CEA
Consumer Electronics Association


NAB
NATIONAL ASSOCIATION OF BROADCASTERS