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March 27, 2007

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VIA E-Mail

Mr. William Hurst
Technical Research Branch Chief
Office of Engineering and Technology Laboratory Division
Federal Communications Commission
7435 Oakland Mills Road
Columbia, Maryland 21046-1609

Re: WT Docket No. 01-309
Ex Parte Presentation

Dear Mr. Hurst:

On behalf of the Alliance for Telecommunications Industry Solutions' Incubator Solutions Program #4 – Hearing Aid Compatibility (AISP.4-HAC), attached herewith are the results of AISP.4-HAC's CDMA vocoder testing. As discussed previously, this testing was requested by the FCC's Office of Engineering and Technology.

In the vocoder testing, each manufacturer tested its own CDMA products. The data does not correlate between labs, but can be used to compare the radio configurations and service options from each lab. The first sheet in the spreadsheet, "scan results," shows the waveforms from each test of radio configurations (RC) and service options (SO). (The scales are different between labs and should not be compared between labs.) The second sheet, "parameters," lists the test details. The final sheet, "results," shows the raw numbers from the assessment systems.

A copy of this letter and attachment are being submitted for inclusion in the above-referenced docket. If you have any questions regarding this matter, please do not hesitate to contact the undersigned.

Sincerely,

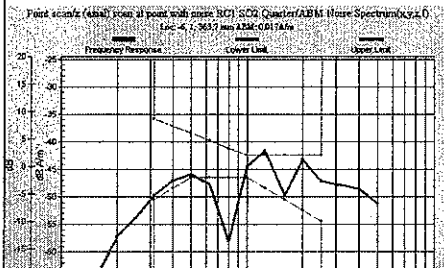
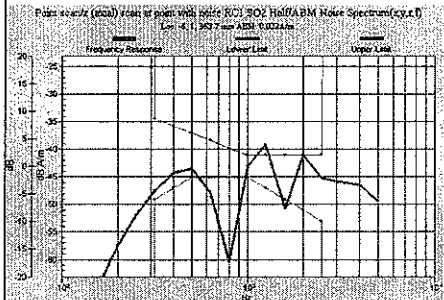
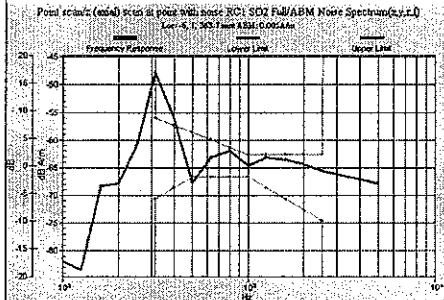
Thomas Goode
General Counsel

Attachment

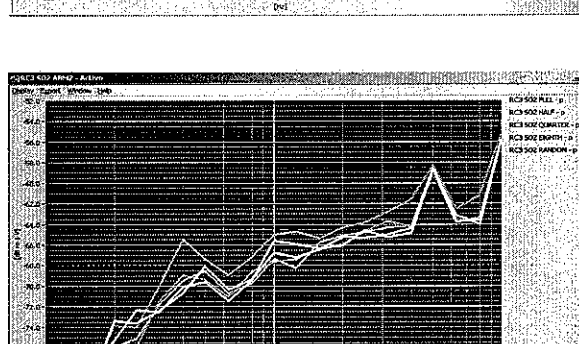
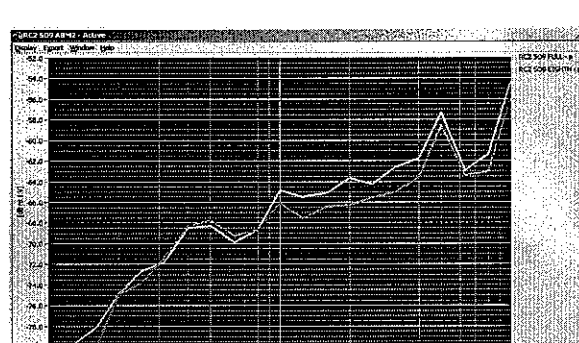
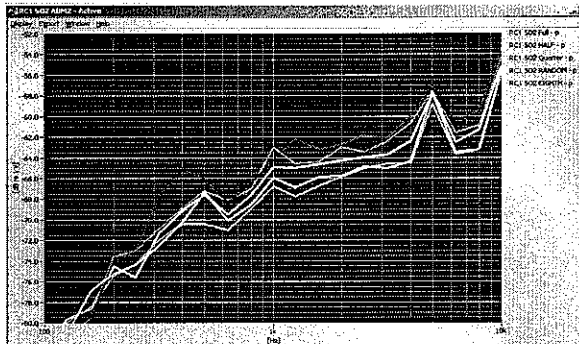
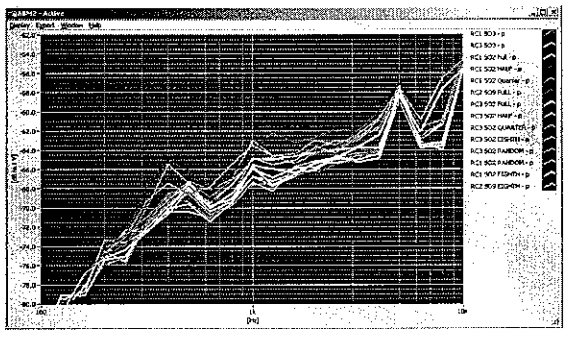
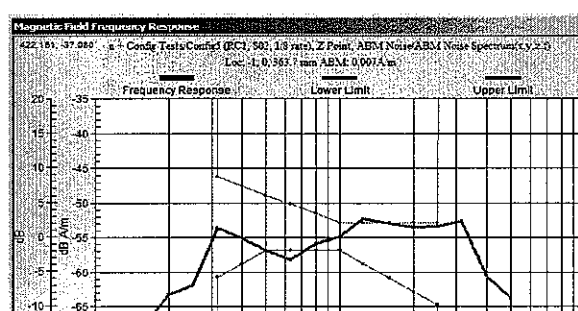
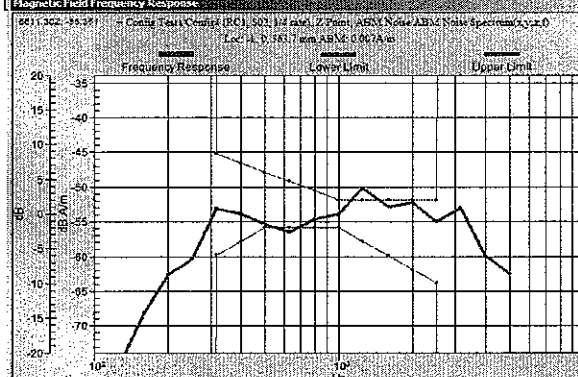
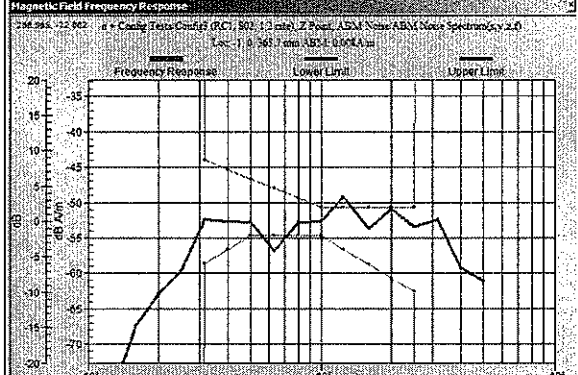
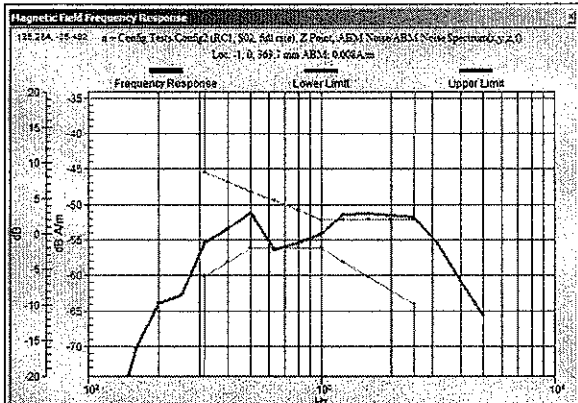
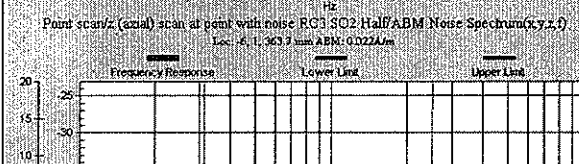
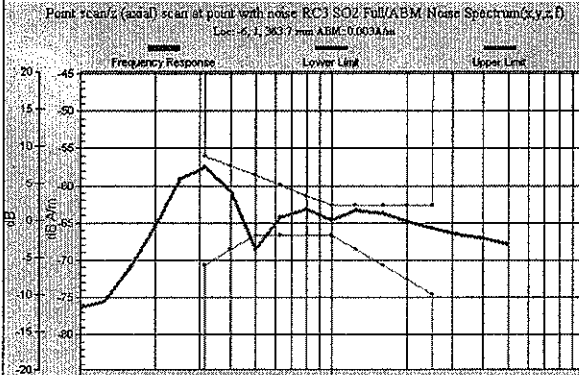
Application	RC	Table Ref (3GPP2 Document C.S002-D)	Code channel	Service Option	Frames time (ms)	N	Data Rate	Code Rate	Code Symbol Repetiti on	Puncture Rate	Repeated Code Suymbol Rate (sps)	Modulation Symbol Rate (sps)	Transmit Duty Cycle	PN Chip Rate	Rev Pilot	Reverse Fundame ntal Channel	Rev Sup Channel 1/2	Rev Power control	Dedicat ed Control Channel
Voice/data		2.1.1.3.1.2.1-10	Fundamental Channel	SO2				9600	0.333	1	28800	4800	100	1.2288	no	yes	no	no	No
Voice/data		2.1.1.3.1.2.1-10	Fundamental Channel	SO2				4800	0.333	2	28800	4800	50	1.2288	no	yes	no	no	No
Voice/data		2.1.1.3.1.2.1-10	Fundamental Channel	SO2				2400	0.333	4	28800	4800	25	1.2288	no	yes	no	no	No
Voice/data		2.1.1.3.1.2.1-10	Fundamental Channel	SO2				1200	0.333	8	28800	4800	12.5	1.2288	no	yes	no	no	No
Voice/data		2.1.1.3.1.2.1-10	Fundamental Channel	SO2				RANDOM	0.333	VARIES	28800	4800	VARIES	1.2288	no	yes	no	no	No
Voice/data		2.1.1.3.1.2.1-10	Fundamental Channel	SO3				NOT SELECTABLE	0.333	VARIES	28800	4800	VARIES	1.2288	no	yes	no	no	No
Voice/data		2.1.1.3.1.2.1-11	Fundamental Channel	SO9				14400	0.500	1	28800	4800	100	1.2288	no	yes	no	no	No
Voice/data		2.1.1.3.1.2.1-11	Fundamental Channel					7200	0.500	2	28800	4800	50	1.2288	no	yes	no	no	No
Voice/data		2.1.1.3.1.2.1-11	Fundamental Channel					3600	0.500	4	28800	4800	25	1.2288	no	yes	no	no	No
Voice/data		2.1.1.3.1.2.1-11	Fundamental Channel	SO9				1800	0.500	8	28800	4800	12.5	1.2288	no	yes	no	no	No
Voice		3.2.1.3.1.2.1-14	Fundamental Ch and Supplement Ch		5			9600	1/4	2		76800	100	1.2288	yes	yes	No	yes	No
Voice		3.2.1.3.1.2.1-12	Fundamental Ch and Supplement Ch	SO2	20			9600	1/4	2		76800	100	1.2288	yes	yes	No	yes	No
Voice		3.2.1.3.1.2.1-12	Fundamental Ch and Supplement Ch	SO2	20			4800	1/4	4		76800	100	1.2288	yes	yes	No	yes	No
Voice		3.2.1.3.1.2.1-12	Fundamental Ch and Supplement Ch	SO2	20			2700	1/4	8	0.9	76800	100	1.2288	yes	yes	No	yes	No
Voice		3.2.1.3.1.2.1-12	Fundamental Ch and Supplement Ch	SO2	20			1500	1/4	16	0.8	76800	100	1.2288	yes	yes	No	yes	No
Voice		3.2.1.3.1.2.1-12	Fundamental Ch and Supplement Ch	SO2	20			RANDOM	1/4	VARIES	VARIES	76800	100	1.2288	yes	yes	No	yes	No
Voice		3.2.1.3.1.2.1-12	Fundamental Ch and Supplement Ch	SO3	20			NOT SELECTABLE	1/4	VARIES	VARIES	76800	100	1.2288	yes	yes	No	yes	No
Voice		4.2.1.3.1.2.1-15	Fundamental Ch and Supplement Ch		20			14400	1/4	2	16/24	76800	100	1.2288	yes	yes	No	yes	No
Voice		4.2.1.3.1.2.1-15	Fundamental Ch and Supplement Ch		20			7200	1/4	4	16/24	76800	100	1.2288	yes	yes	No	yes	No
Voice		4.2.1.3.1.2.1-15	Fundamental Ch and Supplement Ch		20			3600	1/4	8	16/24	76800	100	1.2288	yes	yes	No	yes	No
Voice		4.2.1.3.1.2.1-15	Fundamental Ch and Supplement Ch		20			1800	1/4	16	16/24	76800	100	1.2288	yes	yes	No	yes	No
Data		3.2.1.3.1.2.1-13	Supplmental Channel Modulation		40	1		9600	1/4	1	1	38400	100	1.2288	yes	yes	yes	yes	No
Data		3.2.1.3.1.2.1-13	Supplmental Channel Modulation		40	2		19200	1/4	1	1	76800	100	1.2288	yes	yes	yes	yes	No
Data		3.2.1.3.1.2.1-13	Supplmental Channel Modulation		40	4		38400	1/4	1	1	153600	100	1.2288	yes	yes	yes	yes	No
Data		3.2.1.3.1.2.1-13	Supplmental Channel Modulation		40	8		76800	1/4	1	1	307200	100	1.2288	yes	yes	yes	yes	No
Data		3.2.1.3.1.2.1-13	Supplmental Channel Modulation		40	16		153600	1/2	1	1	307200	100	1.2288	yes	yes	yes	yes	No
Data		3.2.1.3.1.2.1-13	Supplmental Channel Modulation		40			4800	1/4	2	1	38400	100	1.2288	yes	yes	yes	yes	No
Data		3.2.1.3.1.2.1-13	Supplmental Channel Modulation		40			2700	1/4	4	1	38400	100	1.2288	yes	yes	yes	yes	No
Data		3.2.1.3.1.2.1-13	Supplmental Channel Modulation		40			1500	1/4	8	0.89	38400	100	1.2288	yes	yes	yes	yes	No
Data		3.2.1.3.1.2.1-14	Supplmental Channel Modulation		80	1		9600	1/4	1		38400	100	1.2288	yes	yes	yes	yes	No
Data		3.2.1.3.1.2.1-14	Supplmental Channel Modulation		80	2		19200	1/4	1		76800	100	1.2288	yes	yes	yes	yes	No
Data		3.2.1.3.1.2.1-14	Supplmental Channel Modulation		80	4		38400	1/4	1		153600	100	1.2288	yes	yes	yes	yes	No
Data		3.2.1.3.1.2.1-14	Supplmental Channel Modulation		80	8		76800	1/2	1		153600	100	1.2288	yes	yes	yes	yes	No
Data		3.2.1.3.1.2.1-14	Supplmental Channel Modulation		80			4800	1/4	1		19200	100	1.2288	yes	yes	yes	yes	No
Data		3.2.1.3.1.2.1-14	Supplmental Channel Modulation		80			2700	1/4	2		19200	100	1.2288	yes	yes	yes	yes	No
Data		3.2.1.3.1.2.1-14	Supplmental Channel Modulation		80			1500	1/4	4		19200	100	1.2288	yes	yes	yes	yes	No
Data		3.2.1.3.1.2.1-6	Dedicated Control Channel					9600	1/4	2		76800	100	1.228					Yes
Data		3.2.1.3.1.2.1-12	Fundamental Ch and Reverse Supplement Channel Modul		20	1		9600	1/4	2	1	76800	100	1.2288	yes	yes	yes	yes	no
Data		3.2.1.3.1.2.1-12	Fundamental Ch and Reverse Supplement Channel Modul		20	2		19200	1/4	1	1	76800	100	1.2288	yes	yes	yes	yes	No
Data		3.2.1.3.1.2.1-12	Supplmental Channel Modulation		20	4		38400	1/4	1	1	153600	100	1.2288	yes	yes	yes	yes	No
Data		3.2.1.3.1.2.1-12	Supplmental Channel Modulation		20	8		76800	1/4	1	1	307200	100	1.2288	yes	yes	yes	yes	No
Data		3.2.1.3.1.2.1-12	Supplmental Channel Modulation		20	16		153600	1/4	1	1	614400	100	1.2288	yes	yes	yes	yes	No
Data		3.2.1.3.1.2.1-12	Supplmental Channel Modulation		20	32		307200	1/2	1	1	614400	100	1.2288	yes	yes	yes	yes	No
Code Multiplexed		3	FCH+DCCH		20			9600(FCH)+9600(DCCH)							yes	yes	no		
Code Multiplexed		3	FCH+SCH		20			9600(FCH)+9600(SCH)							yes	yes	yes		
Code Multiplexed		3	FCH+SCH		20			9600(FCH)+19200(SCH)							yes	yes	yes		
Code Multiplexed		3	FCH+SCH		20			9600(FCH)+38400(SCH)							yes	yes	yes		
Code Multiplexed		3	FCH+SCH		20			9600(FCH)+76800(SCH)							yes	yes	yes		
Code Multiplexed		3	FCH+SCH		20			9600(FCH)+153600(SCH)							yes	yes	yes		
Code Multiplexed		3	FCH+SCH		20			9600(FCH)+307200(SCH)							yes	yes	yes		
Code Multiplexed		3	FCH+SCH		40			9600(FCH)+9600(SCH)							yes	yes	yes		

Code Multiplexed	3	FCH+SCH		40	9600(FCH)+19200(SCH)										yes	yes	yes		
Code Multiplexed	3	FCH+SCH		40	9600(FCH)+38400(SCH)										yes	yes	yes		
Code Multiplexed	3	FCH+SCH		40	9600(FCH)+76800(SCH)										yes	yes	yes		
Code Multiplexed	3	FCH+SCH		40	9600(FCH)+153600(SCH)										yes	yes	yes		
Code Multiplexed	3	FCH+SCH		80	9600(FCH)+9600(SCH)										yes	yes	yes		
Code Multiplexed	3	FCH+SCH		80	9600(FCH)+19200(SCH)										yes	yes	yes		
Code Multiplexed	3	FCH+SCH		80	9600(FCH)+38400(SCH)										yes	yes	yes		
Code Multiplexed	3	FCH+SCH		80	9600(FCH)+76800(SCH)										yes	yes	yes		
Code Multiplexed	3	DCCH+SCH		20	9600(DCCH)+9600(SCH)										yes	yes	yes		
Code Multiplexed	3	DCCH+SCH		20	9600(DCCH)+19200(SCH)										yes	yes	yes		
Code Multiplexed	3	DCCH+SCH		20	9600(DCCH)+38400(SCH)										yes	yes	yes		
Code Multiplexed	3	DCCH+SCH		20	9600(DCCH)+76800(SCH)										yes	yes	yes		
Code Multiplexed	3	DCCH+SCH		20	9600(DCCH)+153600(SCH)										yes	yes	yes		
Code Multiplexed	3	DCCH+SCH		20	9600(DCCH)+307200(SCH)										yes	yes	yes		
Code Multiplexed	3	DCCH+SCH		40	9600(DCCH)+9600(SCH)										yes	yes	yes		
Code Multiplexed	3	DCCH+SCH		40	9600(DCCH)+19200(SCH)										yes	yes	yes		
Code Multiplexed	3	DCCH+SCH		40	9600(DCCH)+38400(SCH)										yes	yes	yes		
Code Multiplexed	3	DCCH+SCH		40	9600(DCCH)+76800(SCH)										yes	yes	yes		
Code Multiplexed	3	DCCH+SCH		40	9600(DCCH)+153600(SCH)										yes	yes	yes		
Code Multiplexed	3	DCCH+SCH		80	9600(DCCH)+9600(SCH)										yes	yes	yes		
Code Multiplexed	3	DCCH+SCH		80	9600(DCCH)+19200(SCH)										yes	yes	yes		
Code Multiplexed	3	DCCH+SCH		80	9600(DCCH)+38400(SCH)										yes	yes	yes		
Code Multiplexed	3	DCCH+SCH		80	9600(DCCH)+76800(SCH)										yes	yes	yes		
Code Multiplexed	3	FCH+DCCH+SCH		20	9600(FCH)+9600(DCCH)+9600(SCH)										yes	yes	yes		
Code Multiplexed	3	FCH+DCCH+SCH		20	9600(FCH)+9600(DCCH)+9600(SCH)										yes	yes	yes		
Code Multiplexed	3	FCH+DCCH+SCH		20	9600(FCH)+9600(DCCH)+19200(SCH)										yes	yes	yes		
Code Multiplexed	3	FCH+DCCH+SCH		20	9600(FCH)+9600(DCCH)+38400(SCH)										yes	yes	yes		
Code Multiplexed	3	FCH+DCCH+SCH		20	9600(FCH)+9600(DCCH)+76800(SCH)										yes	yes	yes		
Code Multiplexed	3	FCH+DCCH+SCH		20	9600(FCH)+9600(DCCH)+153600(SCH)										yes	yes	yes		
Code Multiplexed	3	FCH+DCCH+SCH		20	9600(FCH)+9600(DCCH)+307200(SCH)										yes	yes	yes		

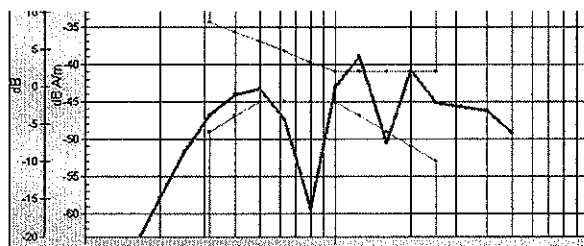
RC 01 SC 02 MFG A



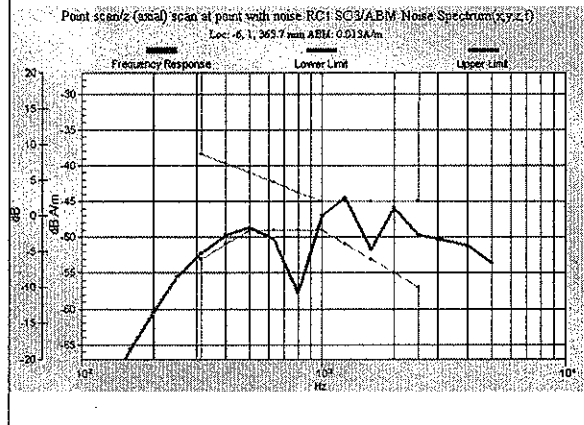
RC03 SC 02 MFG A



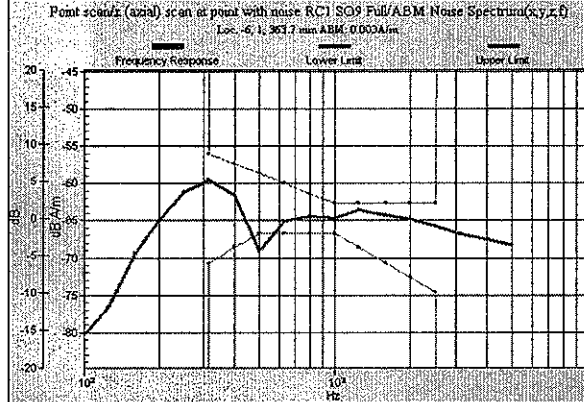
Sc A W



RC01 SC03 MFG A

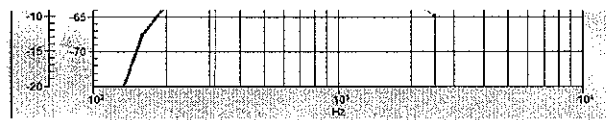
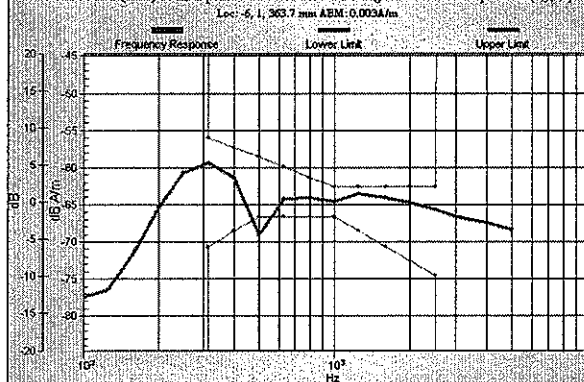


RC1 SC09

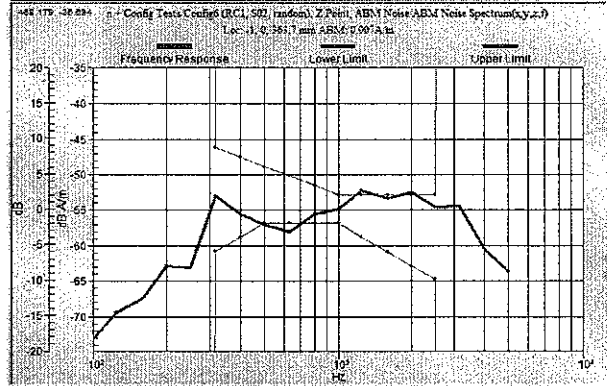


Point scan/z (axial) scan at point with noise RC1 S09 Eight/ABM Noise Spectrum(x,y,z)

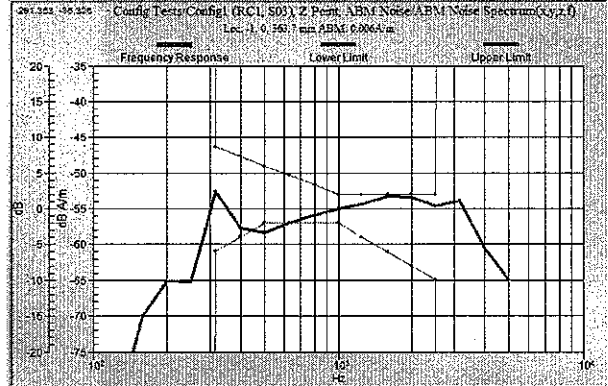
Loc: 6, 1, 363.7 mm ABM: 0.003A/m



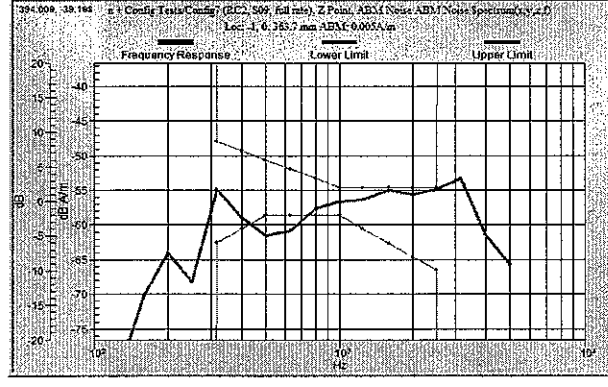
Magnetic Field Frequency Response



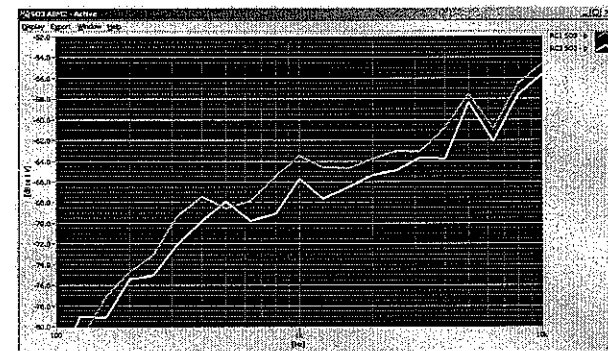
Magnetic Field Frequency Response



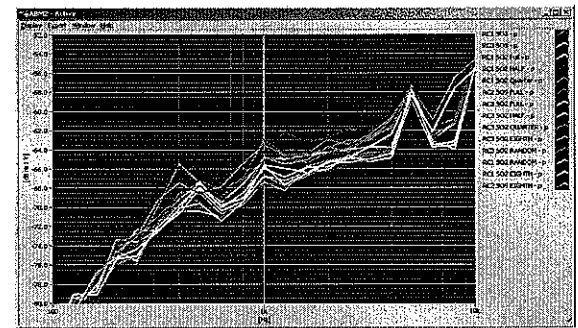
Magnetic Field Frequency Response

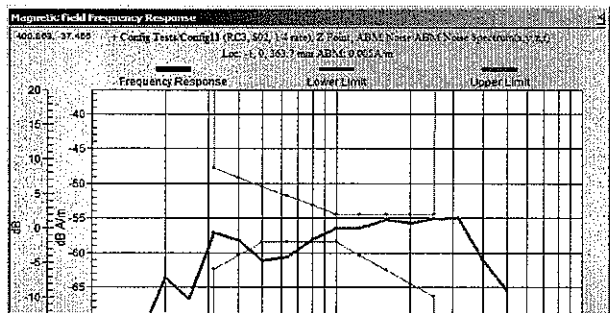
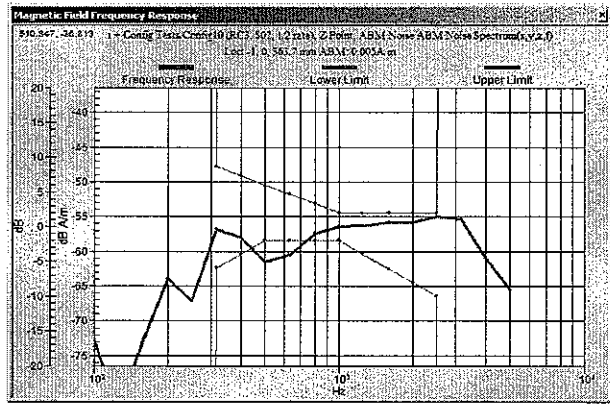
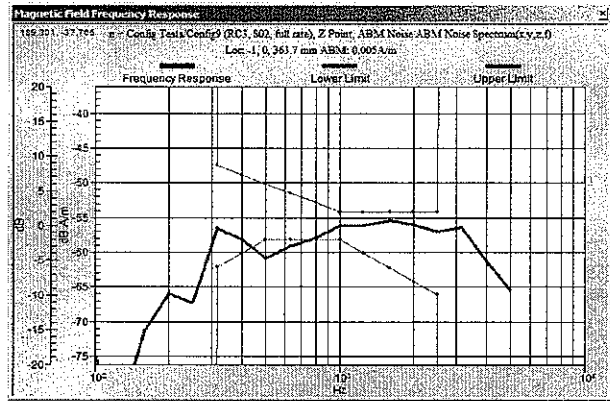
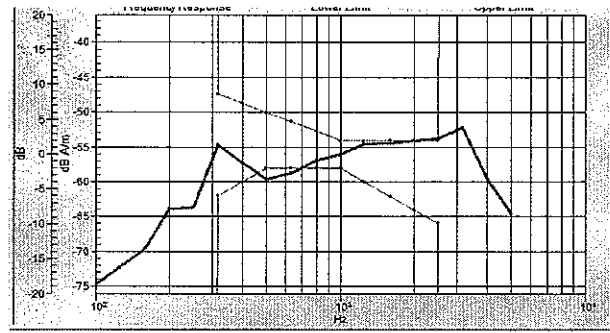
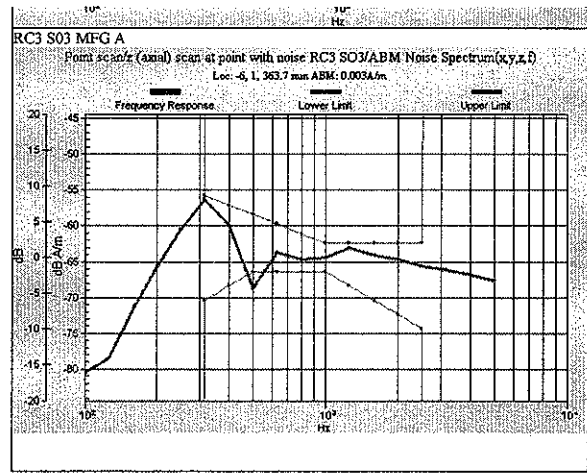


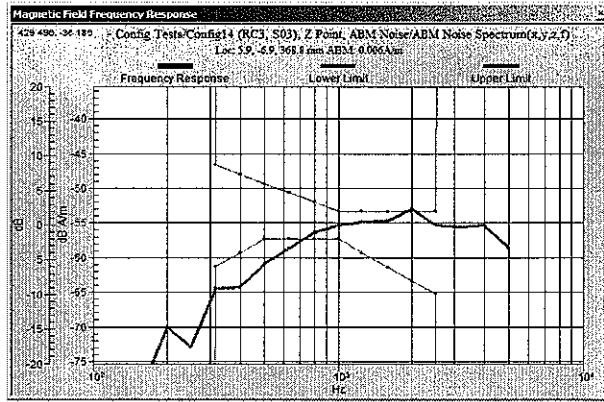
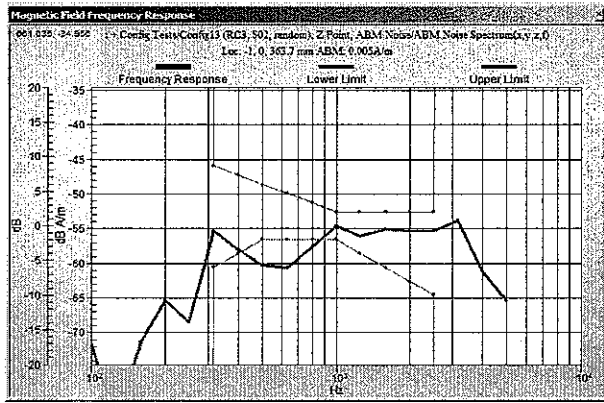
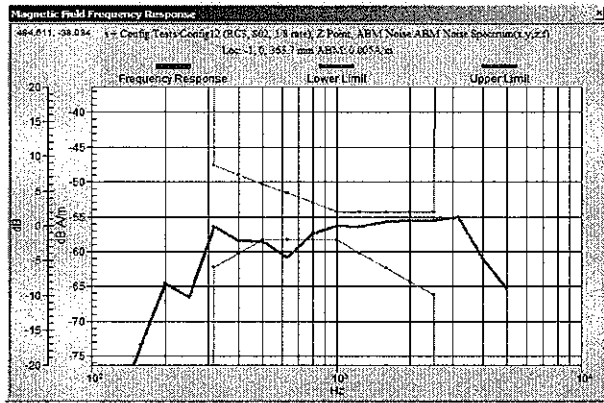
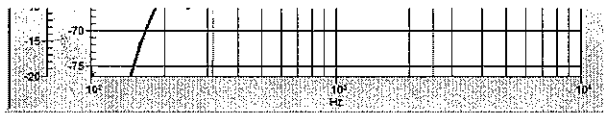
Magnetic Field Frequency Response



Config	Service Opti	Rate (bps)	BM2 (dBA)
RC01	S02	9600	-56.65
RC01	S02	4800	-53.97
RC01	S02	2400	-55.03
RC01	S02	1200	-55.87
RC01	S02	Random	-57.41
RC01	S03	pt Selectat	-54.86
RC01	S09	9600	N/A
RC01	S09	1200	N/A
RC02	S09	14400	-56.64
RC02	S09	1800	-55.89
RC03	S02	9600	-57.03
RC03	S02	4800	-56.98
RC03	S02	2400	-57.19
RC03	S02	1200	-57.16
RC03	S02	Random	-55.24
RC03	S03	pt Selectat	-56.7







RC

RC Configuration	1	1	1	1	3	3	3	3	3	3	3	3
Data Rate	9600	4800	2400	1200	9600 X N	4800	2700	1500	9600 X N	4800	2700	1500
Service Option	55 (Voice) or 32 (data)											
Duty Cycle	100	50	25	12.5	100%	100%	100%	100%	100%	100%	100%	100%
PAR												
Frame					20ms	20ms	20ms	20ms	40ms	40ms	40ms	40ms

Channel

Puncture Rate

Data Rate	Frames time (ms)	Code Rate
2700	20	
4800	20	
9600	20	
19200	20	
38400	20	
76800	20	
153600	20	
307200	20	

	Service Op Rate		MFG A	MFG B	MFG C	MFG D
RC01	S02	9600	-45.9821	-42.36	-56.68	
RC01	S02	4800	-33.314	-41.69	-53.97	
RC01	S02	2400	-35.2369	-42.67	-55.03	
RC01	S02	1200	-37.7737	-43.46	-55.87	
RC01	S02	Random	-37.8793	-43.59	-57.41	
RC01	S03	Not Selectable	-37.822	-44.29	-54.86	
RC01	S09	9600	-52.0153	-42.67	N/A	
RC01	S09	1200	-51.8409	-43.46	N/A	
RC02	S09	14400		-45.52	-56.64	
RC02	S09	1800		-44.44	-55.89	
RC03	S02	9600	-51.0489	-46.23	-57.03	
RC03	S02	4800	-33.2998	-46.05	-56.98	
RC03	S02	2400	-35.2462	-46.02	-57.19	
RC03	S02	1200	-37.8346	-45.91	-57.16	
RC03	S02	Random	-37.9349	-45.35	-55.24	
RC03	S03	Not Selectable	-50.8223	-45.01	-56.7	
	Range		18.7155	4.54	3.44	0