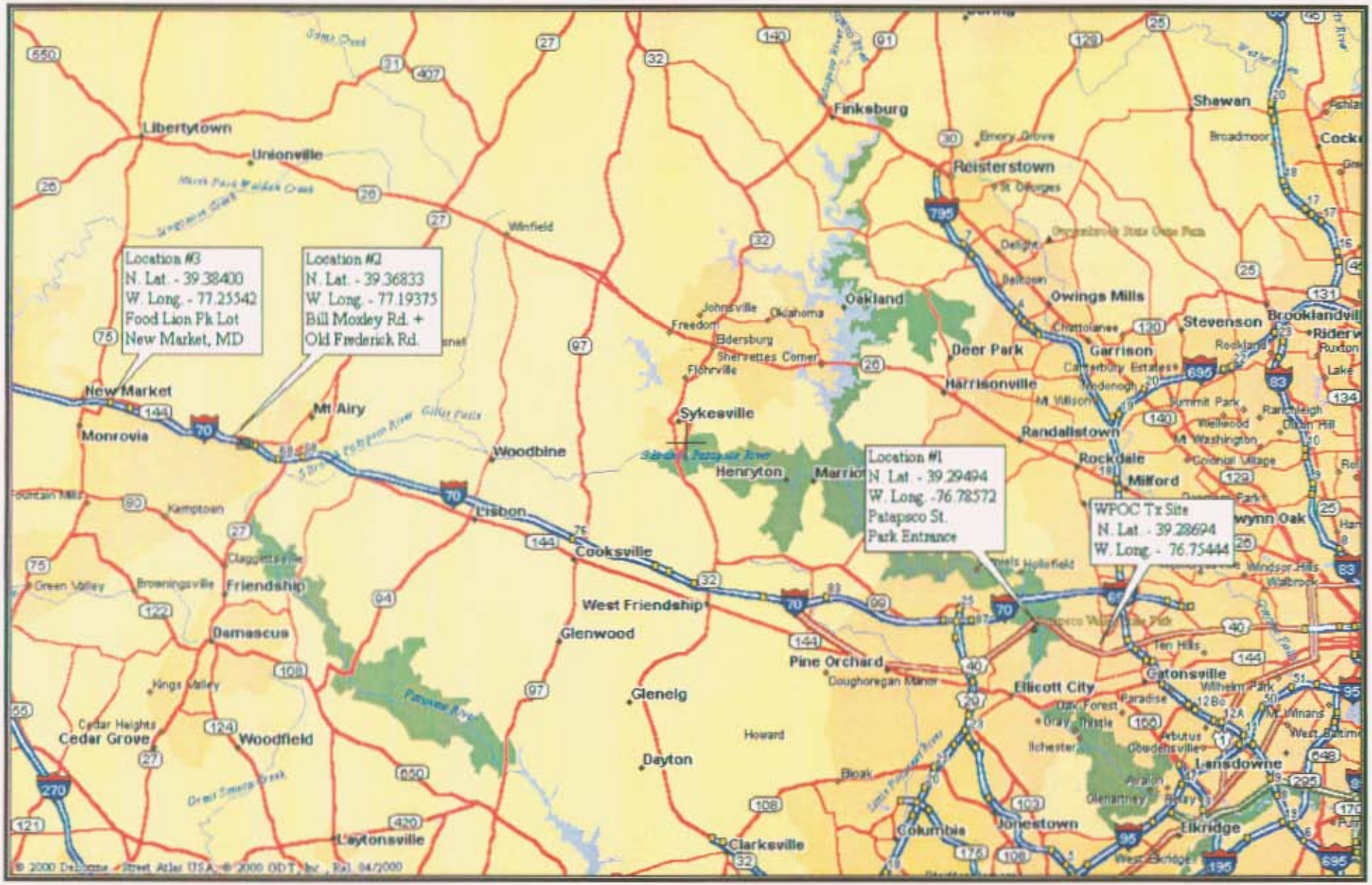
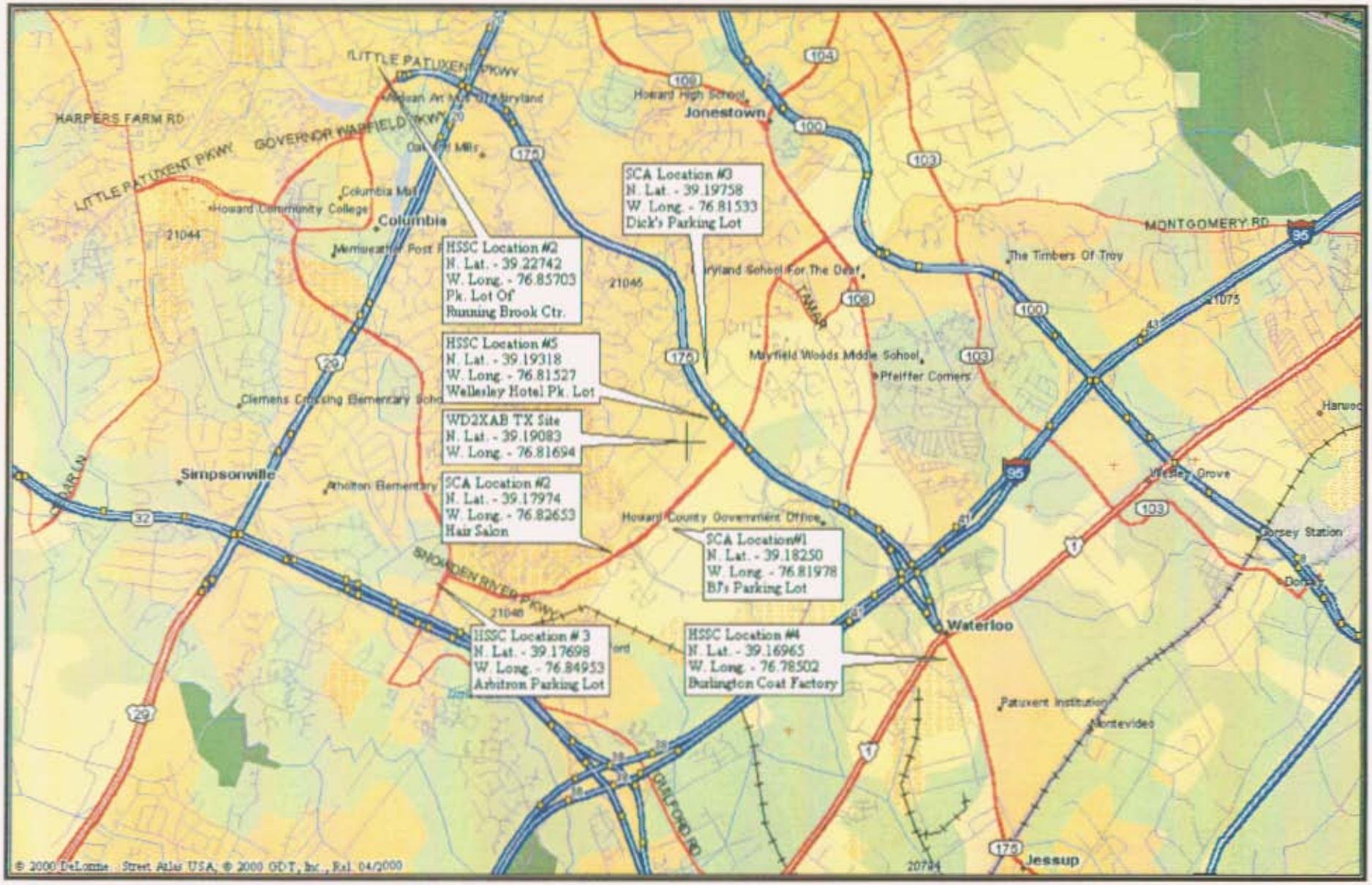
B

SCA (67 & 92 kHz) Compatibility – WPOC - Measurement Locations

57 kHz SCA Compatibility – WPOC - Measurement Locations



SCA (67 & 92 kHz) + HSSC (76 kHz) Compatibility – WD2XAB - Measurement Locations



SCA, RDS & HSSC Field Test Compatibility

Field Strength by Test and Location

Subcarrier Type	Station	Receiver(s)	Test Location	Field Strength at Antenna (dBu)
57 kHz RDS	WPOC	Audemat RDS Analyzer	1	93
			2	37
			3	33
67 & 92 kHz SCA	WPOC	Norver @ 67 kHz,	1	73
		Compol @ 92 kHz	2	72
			3	84
67 & 92 kHz SCA	WD2XAB	McMartin @ 67 kHz,	1	58
		CozmoCom @ 92 kHz	2	53
			3	75
76 kHz DARC HSSC	WD2XAB	Sectra DRB-3000	2	53
			3	54
			4	49
			5	79

C

LAB COMPATIBILITY
SCA - HOST

			FEMALE		MALE		TOTAL	
Rx	AWGN	Data	IBOC Off	IBOC On	IBOC Off	IBOC On	IBOC Off	IBOC On
CozmoCom	00K	Average of MOS	2.1	1.6	2.1	1.6	2.1	1.6
		Confid Interval	0.26	0.21	0.27	0.18	0.26	0.19
	30K	Average of MOS	2.2	1.7	2.1	1.7	2.1	1.7
		Confid Interval	0.25	0.16	0.25	0.20	0.25	0.18
Compol	00K	Average of MOS	3.6	1.5	3.6	1.4	3.6	1.5
		Confid Interval	0.20	0.18	0.22	0.18	0.21	0.18
	30K	Average of MOS	2.6	1.5	2.5	1.4	2.6	1.4
		Confid Interval	0.28	0.18	0.28	0.16	0.28	0.17
McMartin	00K	Average of MOS	3.3	3.0	3.7	3.3	3.5	3.2
		Confid Interval	0.24	0.26	0.21	0.21	0.23	0.24
	30K	Average of MOS	3.0	2.8	3.0	2.9	3.0	2.9
		Confid Interval	0.25	0.24	0.24	0.25	0.23	0.24
Norver	00K	Average of MOS	4.0	2.9	3.7	2.6	3.8	2.8
		Confid Interval	0.24	0.25	0.22	0.23	0.23	0.25
	30K	Average of MOS	3.0	2.5	2.9	2.3	3.0	2.4
		Confid Interval	0.31	0.23	0.30	0.25	0.30	0.24

1st and 2nd Adjacent SCA

1st Adjacent

Lower	D/U	AWGN	Data	FEMALE OFF	FEMALE ON	MALE OFF	MALE ON	TOTAL OFF	TOTAL ON
CozmoCom	16	00K	Average of MOS	1.8	1.8	1.9	1.9	1.9	1.9
			Confid Interval	0.23	0.18	0.20	0.20	0.22	0.19
		30K	Average of MOS	1.8	1.6	2.0	1.8	1.9	1.7
			Confid Interval	0.17	0.20	0.19	0.16	0.18	0.18
	6	00K	Average of MOS	1.3	1.1	1.3	1.2	1.3	1.1
			Confid Interval	0.19	0.09	0.16	0.12	0.17	0.11
		30K	Average of MOS	1.1	1.1	1.3	1.1	1.2	1.1
			Confid Interval	0.09	0.10	0.14	0.10	0.12	0.10
Compol	16	00K	Average of MOS	1.6	1.7	1.8	1.8	1.7	1.8
			Confid Interval	0.20	0.19	0.20	0.18	0.20	0.19
		30K	Average of MOS	1.8	1.8	1.7	1.8	1.8	1.8
			Confid Interval	0.16	0.20	0.20	0.21	0.18	0.20
	6	00K	Average of MOS	1.1	1.0	1.1	1.1	1.1	1.1
			Confid Interval	0.08	0.05	0.10	0.09	0.09	0.08
		30K	Average of MOS	1.1	1.1	1.1	1.1	1.1	1.1
			Confid Interval	0.08	0.08	0.09	0.08	0.09	0.08
McMartin	16	00K	Average of MOS	3.3	2.9	3.8	3.4	3.6	3.1
			Confid Interval	0.24	0.22	0.25	0.22	0.25	0.23
		30K	Average of MOS	2.4	2.3	2.8	2.8	2.6	2.6
			Confid Interval	0.22	0.20	0.18	0.19	0.21	0.21
	6	00K	Average of MOS	2.7	1.9	3.3	2.3	3.0	2.1
			Confid Interval	0.22	0.20	0.23	0.17	0.24	0.19
		30K	Average of MOS	2.2	1.9	2.8	2.1	2.5	2.0
			Confid Interval	0.18	0.20	0.19	0.18	0.20	0.19
Norver	16	00K	Average of MOS	not	2.6	2.8	2.1	2.8	2.4
			Confid Interval	tested	0.23	0.27	0.20	0.27	0.23
		30K	Average of MOS	2.1	1.9	2.0	1.9	2.1	1.9
			Confid Interval	0.19	0.17	0.22	0.18	0.20	0.17
	6	00K	Average of MOS	1.8	1.4	1.9	1.4	1.8	1.4
			Confid Interval	0.20	0.20	0.21	0.18	0.20	0.19
		30K	Average of MOS	1.4	1.2	1.8	1.4	1.6	1.3
			Confid Interval	0.18	0.12	0.17	0.17	0.19	0.15

Upper	CozmoCom	16	00K	Average of MOS	2.0	1.9	1.8	1.9	1.9	1.9
				Confid Interval	0.23	0.21	0.23	0.21	0.23	0.21
			30K	Average of MOS	1.8	1.8	1.8	1.7	1.8	1.8
				Confid Interval	0.21	0.17	0.21	0.19	0.21	0.18
		6	00K	Average of MOS	1.2	1.2	1.2	1.2	1.2	1.2
				Confid Interval	0.11	0.12	0.13	0.11	0.12	0.12
			30K	Average of MOS	1.1	1.2	1.2	1.1	1.2	1.1
				Confid Interval	0.10	0.12	0.13	0.09	0.12	0.11
	Compol	16	00K	Average of MOS	1.6	1.6	1.8	1.7	1.7	1.7
				Confid Interval	0.20	0.19	0.23	0.21	0.21	0.20
			30K	Average of MOS	1.6	1.6	1.6	1.5	1.6	1.6
				Confid Interval	0.18	0.15	0.17	0.19	0.18	0.17
		6	00K	Average of MOS	1.1	1.1	1.1	1.0	1.1	1.0
				Confid Interval	0.09	0.10	0.07	0.05	0.08	0.08
			30K	Average of MOS	1.1	1.0	1.1	1.2	1.1	1.1
				Confid Interval	0.08	0.00	0.08	0.13	0.08	0.10
	McMartin	16	00K	Average of MOS	3.2	2.4	3.6	2.8	3.4	2.6
				Confid Interval	0.23	0.20	0.22	0.21	0.23	0.21
			30K	Average of MOS	2.4	2.2	2.9	2.5	2.7	2.3
				Confid Interval	0.23	0.19	0.18	0.21	0.22	0.21
		6	00K	Average of MOS	1.9	1.3	2.3	1.6	2.1	1.5
				Confid Interval	0.24	0.16	0.23	0.15	0.24	0.16
			30K	Average of MOS	1.9	1.2	2.1	1.7	2.0	1.5
				Confid Interval	0.25	0.13	0.18	0.19	0.21	0.18
	Norver	16	00K	Average of MOS	2.8	2.4	2.7	2.4	2.8	2.4
				Confid Interval	0.23	0.19	0.25	0.23	0.24	0.21
			30K	Average of MOS	1.9	1.8	2.2	2.1	2.0	1.9
				Confid Interval	0.23	0.18	0.19	0.22	0.21	0.21
		6	00K	Average of MOS	1.7	1.5	1.8	1.5	1.7	1.5
				Confid Interval	0.22	0.17	0.20	0.20	0.20	0.18
			30K	Average of MOS	1.3	1.4	1.6	1.5	1.5	1.4
				Confid Interval	0.15	0.17	0.17	0.19	0.16	0.18
2nd Adjacent										
Lower										
	CozmoCom	-10	00K	Average of MOS	2.1	2.2	2.3	2.2	2.2	2.2
				Confid Interval	0.21	0.24	0.26	0.28	0.24	0.26
			30K	Average of MOS	2.0	2.0	2.3	2.3	2.1	2.1

				Confid Interval	0.24	0.20	0.21	0.21	0.23	0.21
	CozmoCom	-30	00K	Average of MOS	failure	failure	failure	failure	failure	failure
	Compol	-10	00K	Average of MOS	3.3	3.3	3.2	3.0	3.2	3.1
				Confid Interval	0.25	0.23	0.22	0.23	0.24	0.23
			30K	Average of MOS	2.1	1.9	2.1	1.9	2.1	1.9
				Confid Interval	0.17	0.18	0.21	0.17	0.19	0.18
		-30	00K	Average of MOS	1.3	failure	1.1	failure	1.2	failure
				Confid Interval	0.15		0.10		0.13	
			30K	Average of MOS	1.2	failure	1.3	failure	1.2	failure
				Confid Interval	0.12		0.14		0.13	
	McMartin	-10	00K	Average of MOS	3.7	3.8	3.8	3.8	3.8	3.8
				Confid Interval	0.23	0.22	0.20	0.18	0.21	0.20
			30K	Average of MOS	2.5	2.6	2.9	2.9	2.7	2.7
				Confid Interval	0.20	0.21	0.21	0.22	0.21	0.22
		-30	00K	Average of MOS	2.9	1.2	3.0	1.5	2.9	1.4
				Confid Interval	0.19	0.14	0.19	0.20	0.19	0.18
			30K	Average of MOS	2.4	1.1	2.5	1.4	2.4	1.3
				Confid Interval	0.23	0.10	0.20	0.17	0.21	0.15
	Norver	-10	00K	Average of MOS	3.3	3.3	3.4	3.4	3.3	3.4
				Confid Interval	0.22	0.21	0.23	0.23	0.23	0.22
			30K	Average of MOS	2.3	2.2	2.3	2.4	2.3	2.3
				Confid Interval	0.22	0.21	0.23	0.21	0.23	0.21
	Norver	-30	00K	Average of MOS	failure	failure	failure	failure	failure	failure
			30K	Average of MOS	failure	failure	failure	failure	failure	failure
Upper	CozmoCom	-10	00K	Average of MOS	2.2	2.2	2.3	2.2	2.2	2.2
				Confid Interval	0.23	0.24	0.24	0.22	0.23	0.23
			30K	Average of MOS	2.0	2.0	2.3	2.2	2.1	2.1
				Confid Interval	0.20	0.22	0.17	0.21	0.20	0.22
	CozmoCom	-30	00K	Average of MOS	failure	failure	failure	failure	failure	failure
			30K	Average of MOS	failure	failure	failure	failure	failure	failure
	Compol	-10	00K	Average of MOS	3.5	2.7	3.3	2.8	3.4	2.7
				Confid Interval	0.24	0.25	0.22	0.20	0.23	0.22
			30K	Average of MOS	2.1	1.9	2.0	2.1	2.0	2.0
				Confid Interval	0.19	0.20	0.19	0.17	0.18	0.19
		-30	00K	Average of MOS	1.6	failure	1.6	failure	1.6	failure
				Confid Interval	0.15		0.17		0.16	
			30K	Average of MOS	1.2	failure	1.4	failure	1.3	failure

			Confid Interval	0.13		0.15		0.14		
McMartin	-10	00K	Average of MOS	3.7	3.6	3.9	3.6	3.8	3.6	
			Confid Interval	0.22	0.24	0.18	0.24	0.21	0.24	
		30K	Average of MOS	2.6	2.5	2.8	2.8	2.7	2.6	
			Confid Interval	0.22	0.22	0.22	0.22	0.71	0.23	
	-30	00K	Average of MOS	1.0	failure	failure	failure	1.0	failure	
			Confid Interval	0.00				0.00		
Norver	-10	00K	Average of MOS	3.1	3.0	3.2	3.2	3.1	3.1	
			Confid Interval	0.27	0.26	0.26	0.26	0.26	0.26	
		30K	Average of MOS	2.1	2.1	2.4	2.4	2.2	2.3	
			Confid Interval	0.17	0.21	0.19	0.20	0.19	0.21	
	-30	00K	Average of MOS	failure	failure	failure	failure	failure	failure	
		30K	Average of MOS	failure	failure	failure	failure	failure	failure	

FIELD HOST COMPATIBILITY

	Data	Location 1 OFF	Location 1 ON	Location 2 OFF	Location 2 ON	Location 3 OFF	Location 3 ON
CozmoCom	MOS	4.2	3.5	3.1	2.8	4.4	2.9
	Confid Interval	0.17	0.19	0.12	0.10	0.11	0.14
Compol	MOS	1.4	1.2	1.5	1.2	1.4	1.2
	Confid Interval	0.17	0.09	0.16	0.09	0.10	0.05
McMartin	MOS	4.3	4.2	3.8	3.6	4.5	4.4
	Confid Interval	0.14	0.13	0.14	0.13	0.15	0.17
Norver	MOS	1.5	1.6	1.6	1.7	1.9	1.6
	Confid Interval	0.16	0.15	0.27	0.26	0.23	0.18

D

RDS Compatibility – WPOC – Tabular Data

Engineer: Thomas Walker | Observer: Alan Rosner | PAGE 1 OF 1

IBOC Call Sign: WPOC | IBOC Frequency: 93.1 MHz

IBOC Latitude: 39.28694 D.ddddd | RDS Injection (Percent): 1-2 Percent

IBOC Longitude: 76.75444 D.ddddd | RDS Frequency (kHz): 57 kHz

Location #1 - Select Location w/ Block Error Free Reception (w/ DAB Off)

Latitude: 39-17-41.8 | Longitude: 76-47-08.6 | Location Description: Patapsco State Park-Entrance parking lot

Time (30 Min) From	Time (30 Min) To	DAB Mode	RDS Block Errors	Time (30 Min) From	Time (30 Min) To	DAB Mode	RDS Block Errors	Error % Increase
10:54am	11:24am	Off	0%	10:18am	10:53am	On	0%	0

Location #2 - Select Location w/ 1% Block Errors (w/ DAB Off)

Latitude: 39-22-06.0 | Longitude: 77-11-37.5 | Location Description: Bill Moxley Rd & Old Fredrick Rd, Fred. Co. MD

Time (3 Min) From	Time (3 Min) To	DAB Mode	RDS Block Errors	Time (3 Min) From	Time (3 Min) To	DAB Mode	RDS Block Errors	Error % Increase
12:22pm	12:25pm	Off	1.20%	12:28pm	12:31pm	On	1.40%	0.2
12:32pm	12:35pm		2.60%	12:36pm	12:40pm		2.70%	0.1
12:40pm	12:43pm		1.40%	12:45pm	12:48pm		1.30%	-0.1

Location #3 - Select Location w/ 10% Block Errors (w/ DAB Off)

Latitude: 39-23-02.4 | Longitude: 77-15-19.5 | Location Description: Food Lion parking lot, New Market, MD

Time (3 Min) From	Time (3 Min) To	DAB Mode	RDS Block Errors	Time (3 Min) From	Time (3 Min) To	DAB Mode	RDS Block Errors	Error % Increase
1:13pm	1:16pm	Off	9.40%	1:18pm	1:21pm	On	9.10%	-0.3
1:23pm	1:26pm		10.80%	1:27pm	1:30pm		13.40%	2.6
1:31pm	1:34pm		12.40%	1:35pm	1:38pm		6.10%	-6.3

HSSC Compatibility – WD2XAB – Tabular Data

1	Measurements at Locations 2, 3 & 4 were made by alternating DAB ON and DAB OFF conditions lasted for approximately 10,000 blocks, yielding about 30,000 blocks of DAB ON and 30,000 blocks of DAB OFF. The BLER results for these locations are aggregated by D
2	Location 5 data were taken for one time DAB ON and DAB OFF conditions, each for the duration of about 100,000 blocks. Location 5 represents excellent signal conditions, demonstrating BLER floors for DAB ON versus DAB OFF
3	All measurements are made using the Sectra model TSE 760 encoder at 10 % FM injection on station W2DXAB.
4	The receiver is Sectra model DRM 3000
5	Uncorrected BLER represent performance before DARC horizontal and vertical corrections.
6	Corrected BLER is post-H&V corrections

NRSC HSSC Compatibility Measurements

Engineer: Greg Nease | Observer: Alan Rosner | PAGE 1 OF 1

WD2XAM
93.5
39.19083
76.81684

Sectra/TSE760
209719002
Sectra/DRM3000
340002548
10

Location #2 - Impaired Signal Conditions

Latitude: 39.22742 | Longitude: 76.85703 | Location Description: Parking Lot of Running Brook Center

1	10:54:00	10:57:00	On	38	0.366	0.000	10:57:00	11:00:00	Off	39	0.254	0.000	0.000
2	11:00:00	11:03:00		37	0.151	0.000	11:03:00	11:06:00		38	0.213	0.000	0.000
3	11:06:00	11:09:00		38	0.234	0.000	11:09:00	11:12:00		39	0.387	0.000	0.000
				30736	0.25	0				31552	0.29	0	0.000

Location #3 - Impaired Signal Conditions

Latitude: 39.17696 | Longitude: 76.84953 | Location Description: Arbitron Parking Lot - SE Corner

1	11:40:00	11:43:00	On	37	0.173	0.000	11:43:00	11:46:00	Off	37	0.127	0.000	0.000
2	11:46:00	11:49:00		38	0.147	0.000	11:49:00	11:52:00		38	0.861	0.232	-0.232
3	11:52:00	11:55:00		38	0.234	0.000	11:55:00	11:58:00		38	0.261	0.000	0.000
				30736	0.18	0				30736	0.42	0.08	-0.080

Location #4 - Impaired Signal Conditions

Latitude: 39.16965 | Longitude: 76.78502 | Location Description: Burlington Coat Factory Entrance

1	12:30:00	12:33:00	On	39	10.849	0.046	12:33:00	12:36:00	Off	39	9.856	0.351	-0.305
2	12:36:00	12:39:00		39	7.744	0.021	12:39:00	12:42:00		37	6.154	0.000	0.021
3	12:42:00	12:45:00		38	8.208	0.097	12:45:00	12:48:00		39	7.477	0.077	0.020
				31552	8.94	0.054				31280	7.86	0.145	-0.091

Location #5 - Excellent Signal Conditions

Latitude: 39.19318 | Longitude: 76.81527 | Location Description: Wellesley Hotel - South side parking lot

1	30		On	363	0.074	0.000	30		Off	356	0.000	0.000	0.000
				98736	0.07	0				99552	0	0	0.000