

Figure 17. Station 1, 40-m transmitter: magnitude of complex FFT and normalized excess path loss spectrum.

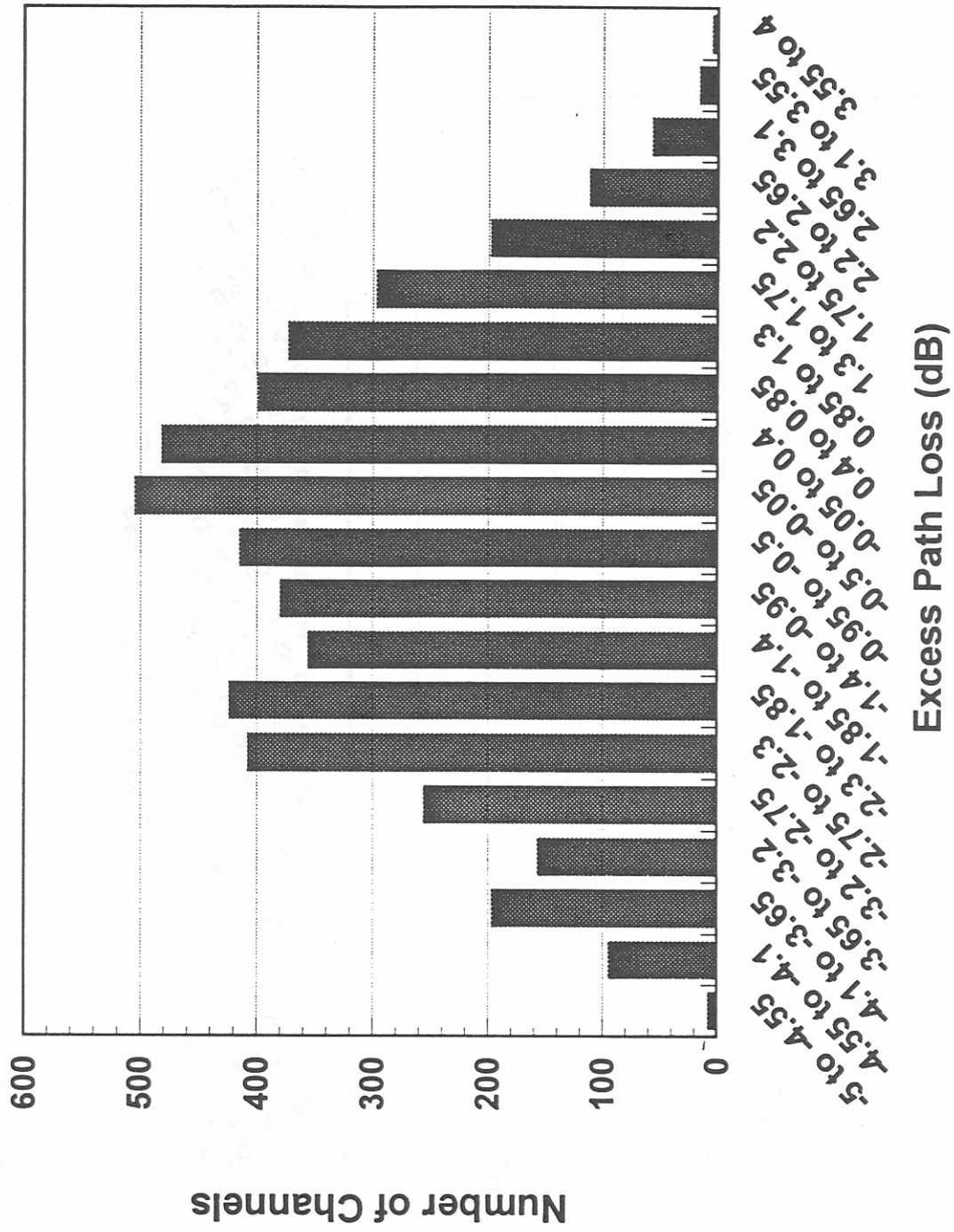


Figure 18. Station 1, 40-m transmitter: distribution of average excess path loss/channel.

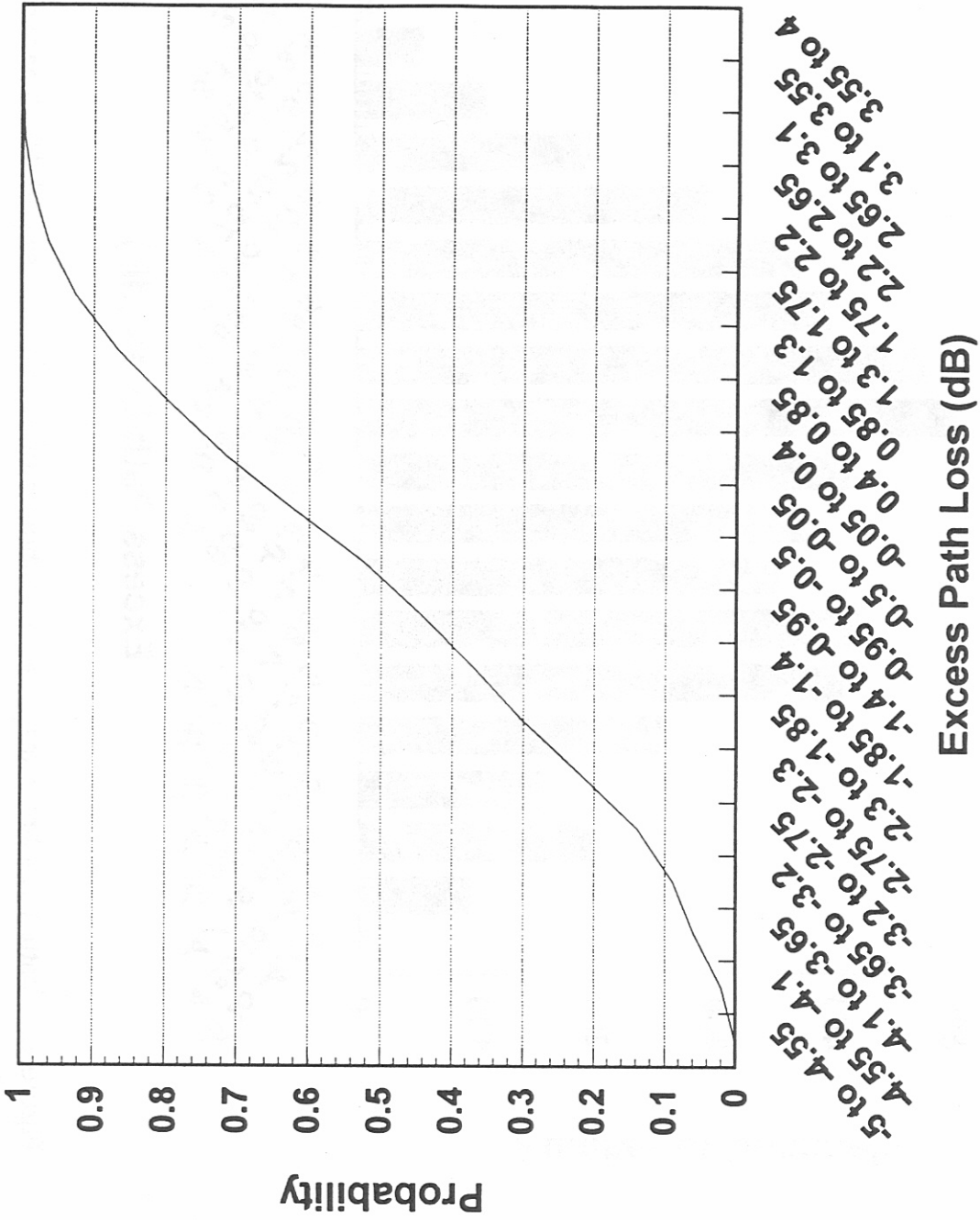


Figure 19. Station 1, 40-m transmitter: cumulative distribution of average excess path loss/channel.

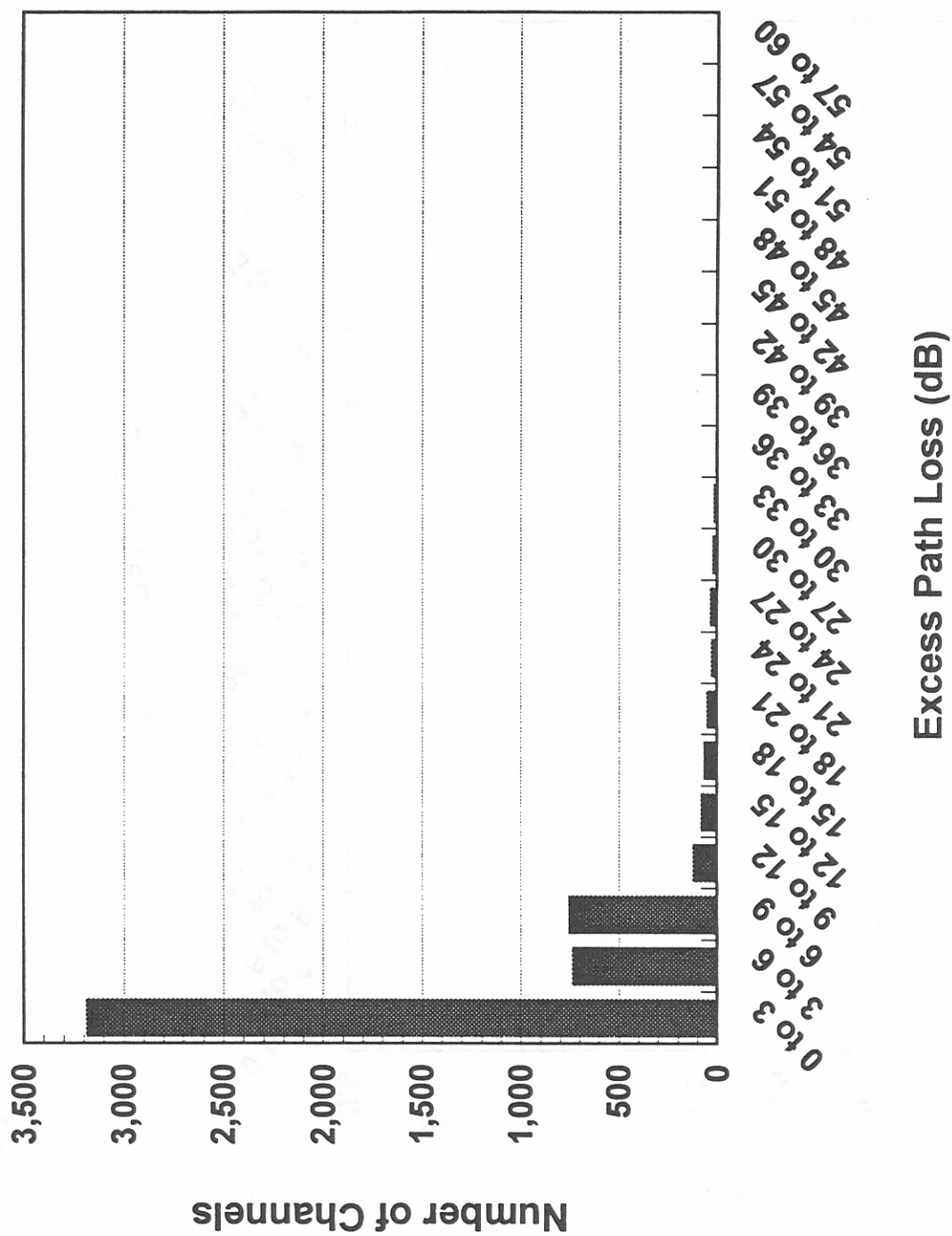


Figure 20. Station 1, 40-m transmitter: distribution of average Δ excess path loss/channel.

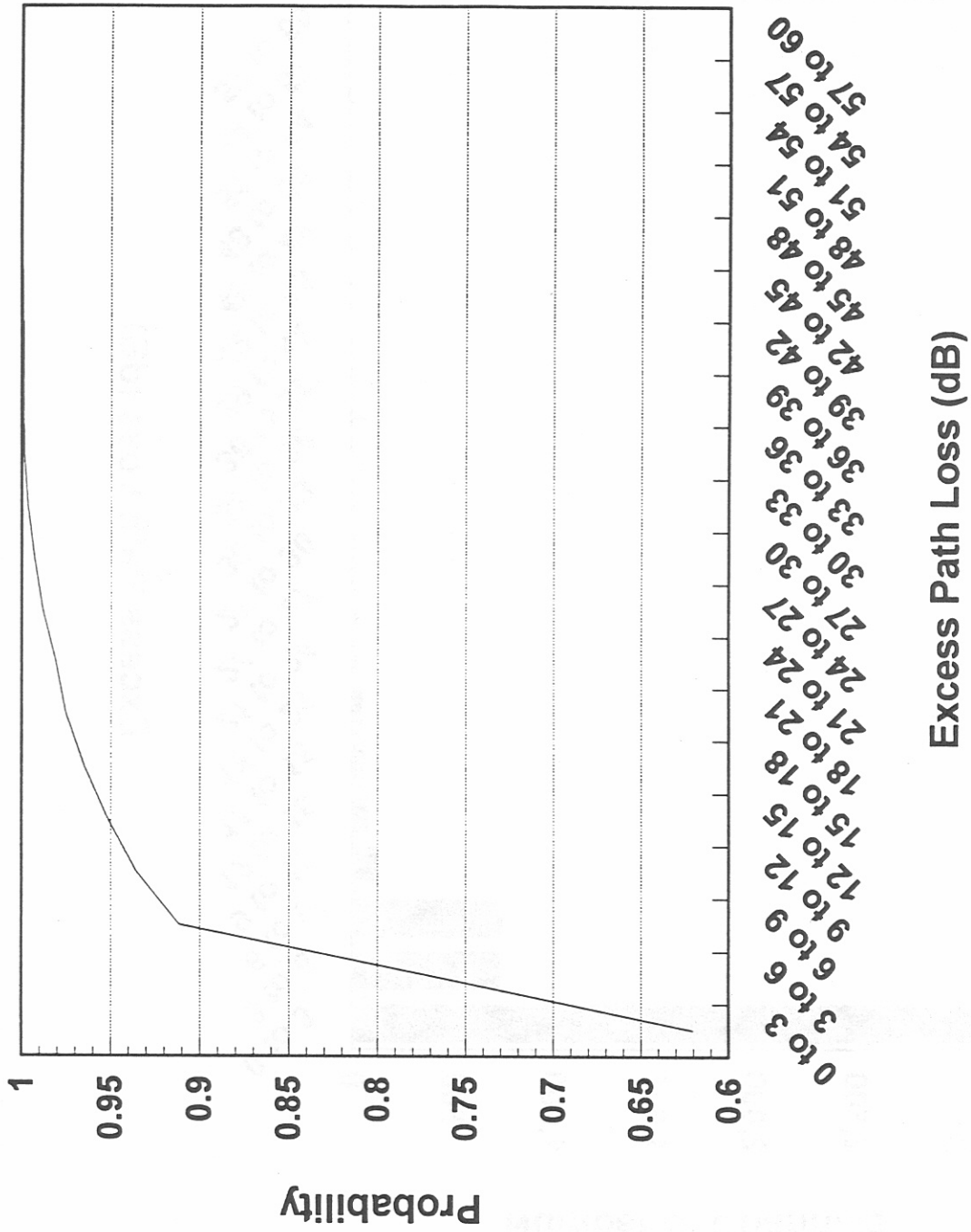


Figure 21. Station 1, 40-m transmitter: cumulative distribution of average Δ excess path loss/channel.

Table 2. Broadband LMDS Area Coverage Survey: Summary of Processed Data Using 40-m Transmitter Height.

Station	File	Dist (Km)	A (dB)	SA (dB)	D10 (ns)	SD10 (ns)	D15 (ns)	SD15 (ns)	Dm (ns)	SDm (ns)
1	u1p81	1.981	2.3	0.2	0.7	< .1	0.8	< .1	1.3	0.1
2	u1p84	2.743	7.1	0.0	0.7	< .1	0.7	< .1	3.4	0.9
3	u2p1	2.819	15.8	0.0	0.9	< .1	1.2	< .1	1.3	0.2
4	u2p3	3.749	14.0	0.2	0.8	< .1	0.9	< .1	1.0	< .1
4	u2p6	3.749	18.5	0.3	0.7	< .1	0.8	< .1	1.0	0.2
5	u2p15	4.084	22.2	0.4	1.6	0.1	1.8	0.2	1.9	0.3
6	u2p16	4.435	-6.6	0.2	0.7	< .1	0.8	< .1	1.4	< .1
7	u2p24	4.252	22.2	0.6	0.7	< .1	0.9	< .1	1.0	0.4
8	u1p54	4.627	10.1	1.8	0.8	1.3	1.0	1.8	1.8	1.8
9	u1p61	5.437	28.0	1.5	1.3	1.2	4.1	3.8	1.4	1.2
10	u1p64	5.588	21.1	1.5	1.1	0.1	2.1	0.5	2.0	0.6
11	u1p66	6.377	19.3	1.7	1.0	0.2	1.3	0.4	1.3	0.4
12	u1p68	5.452	0.7	0.2	0.7	< .1	1.0	< .1	1.7	< .1
13	u1p58	5.351	15.2	0.5	0.8	< .1	1.1	0.1	1.8	0.3
14	u1p70	6.855	0.0	0.3	0.7	< .1	0.7	< .1	1.6	0.1
15	u2p26	4.431	12.1	0.4	0.8	< .1	1.0	0.1	1.5	0.4
16	u1p56	5.258	10.1	1.4	0.7	0.2	1.2	1.3	2.1	1.4
17	u2p28	4.707	14.1	0.3	0.9	0.1	1.1	0.1	1.2	0.1
18	u2p30	4.758	18.6	0.4	0.8	< .1	0.9	< .1	1.0	0.3
19	u2p32	4.798	-3.0	0.2	0.8	< .1	0.9	0.1	1.7	0.4
20	u2p34	4.749	20.2	0.4	1.0	< .1	1.0	< .1	1.1	0.2
21	u2p36	4.873	25.5	0.6	0.7	< .1	1.6	1.5	1.0	0.6
22	u2p38	4.873	26.9	2.2	2.1	3.7	5.0	13.2	2.0	2.9
24	u2p44	4.940	17.8	0.5	0.8	< .1	0.9	< .1	1.0	0.2
25	u2p47	5.004	28.7	1.4	2.6	1.5	1.6	< .1	2.6	1.9
26	u2p53	4.495	8.5	0.2	0.7	< .1	1.2	< .1	1.9	< .1
27	u2p55	4.497	12.5	0.3	0.8	< .1	1.0	< .1	1.3	0.1
28	u2p57	4.497	23.6	0.8	1.0	0.1	1.3	0.2	1.3	0.3
29	u2p59	4.489	17.3	0.8	0.9	< .1	1.0	< .1	1.2	0.2
30	u2p61	4.656	19.3	0.5	0.8	< .1	1.0	0.1	1.1	0.2
31	u2p63	5.033	24.2	1.2	2.4	0.7	3.7	0.8	2.9	0.6
32	u2p65	5.105	18.1	0.4	1.1	< .1	1.3	0.2	1.5	0.3
33	u2p67	5.143	10.1	0.4	0.9	< .1	1.1	< .1	1.4	0.1
34	u2p69	5.174	13.3	0.8	0.8	< .1	1.0	< .1	1.3	0.1
35	u2p7	3.485	20.6	0.3	0.9	< .1	1.2	< .1	1.3	0.2
35	u2p10	3.485	10.2	0.0	0.7	< .1	0.9	< .1	1.7	0.7
35	u2p11	3.485	10.2	0.0	0.7	< .1	0.9	< .1	2.3	0.6
36	u2p73	5.241	24.7	0.4	1.2	< .1	3.1	2.3	1.4	0.6
37	u2p77	5.316	23.5	0.3	0.8	0.2	2.4	0.8	1.8	0.7
38	u2p81	5.279	28.7	0.4	1.0	0.9	ND	< .1	1.2	1.1
39	u2p79	5.293	7.0	0.2	0.7	< .1	1.0	< .1	1.6	< .1
40	u2p83	4.570	32.5	1.1	0.0	< .1	ND	< .1	1.8	3.4
41	u2p85	5.134	22.9	0.3	2.5	0.3	5.0	1.6	2.7	0.6
41	u2p88	5.134	23.9	0.3	2.9	< .1	7.9	3.5	2.8	0.8
42	u2p91	4.844	18.2	0.2	0.7	< .1	0.9	< .1	1.4	0.2
42	u2p89	4.844	11.1	0.2	0.7	< .1	0.8	< .1	1.7	0.1
42	u3p1	4.844	21.6	0.4	0.7	< .1	1.3	0.3	1.4	0.4
43	u3p5	6.927	28.0	0.4	9.2	5.5	0.0	< .1	2.1	2.5
45	u1p72	4.642	14.9	0.6	0.7	< .1	0.8	< .1	1.4	0.3

Legend: Dist = path length: A = excess path loss: S = standard deviation: SA = standard deviation, excess path loss (etc): D10 = delay spread 10 dB threshold: D15 = delay spread 15 dB threshold: Dm = delay spread noise plus 3 dB threshold.

Table 2. Broadband LMDS Area Coverage Survey: Summary of Processed Data Using 40-m Transmitter Height (con't.).

Station	DYR (dB)	SDYR (dB)	CBW (MHz)	SCBW (MHz)	A/Ch (dB)	SA/Ch (dB)	Med A/Ch (dB)	DA/Ch (dB)	SDA/Ch (dB)	Med DA/Ch (dB)
1	30.7	1.1	463	8	1.6	1.0	8.5	2.3	3.6	1.0
2	31.7	1.4	481	9	6.5	1.0	6.4	2.7	4.5	1.3
3	26.3	1.1	339	15	14.5	2.1	14.3	2.5	3.3	1.4
4	26.9	0.9	385	14	12.6	1.3	12.4	2.4	3.0	1.4
4	24.9	1.1	399	32	17.5	1.4	17.3	2.6	3.2	1.5
5	20.0	1.2	166	35	21.6	1.6	21.5	3.4	2.8	2.6
6	31.7	0.6	430	16	-7.8	1.4	-8.0	2.5	3.2	1.3
7	21.3	1.2	300	91	21.3	1.6	21.0	3.1	3.1	2.1
8	30.2	1.8	440	46	9.5	2.5	9.3	2.5	2.9	1.5
9	13.8	1.9	17	24	27.3	3.1	27.0	5.5	4.1	4.4
10	19.5	2.1	174	67	20.0	3.4	19.1	4.3	4.0	3.1
11	20.5	1.9	231	82	18.0	3.1	17.6	3.4	3.2	2.4
12	32.3	1.2	410	15	-0.3	1.7	-0.7	2.4	3.4	1.3
13	25.2	1.2	351	27	13.7	2.3	13.3	3.0	3.1	1.9
14	32.8	0.9	471	19	-1.0	0.9	-1.0	2.4	3.4	1.2
15	27.1	1.2	385	42	11.9	1.8	11.8	2.5	3.5	1.4
16	30.3	1.7	489	32	9.9	2.4	9.4	3.0	3.6	1.9
17	24.9	1.2	342	45	12.5	1.7	12.3	3.0	2.9	2.0
18	22.5	1.2	347	58	16.9	1.0	16.8	3.0	3.0	1.9
19	32.6	1.0	410	46	-4.6	1.3	-4.7	2.7	3.5	1.5
20	20.6	1.2	272	59	18.7	1.3	18.7	3.5	3.1	2.4
21	17.1	1.2	127	98	24.3	1.7	24.2	4.4	3.3	3.2
22	13.4	2.4	38	50	25.9	3.9	25.5	6.0	4.8	4.2
24	23.8	1.1	364	37	16.2	1.1	16.1	2.5	3.0	1.4
25	10.7	2.4	14	14	30.1	4.1	29.8	9.7	6.0	8.3
26	30.8	0.9	424	17	7.4	2.4	8.2	2.3	3.4	1.1
27	28.3	1.1	392	15	11.2	1.6	11.1	2.2	3.1	1.1
28	19.2	1.2	189	71	22.0	2.5	21.8	3.1	3.1	2.0
29	24.2	1.1	329	29	15.4	1.7	15.5	2.5	3.2	1.5
30	22.5	1.2	334	53	17.7	1.5	17.7	2.8	3.0	1.8
31	16.6	1.8	63	36	23.4	4.4	22.3	5.5	5.0	3.8
32	22.2	1.1	249	26	16.9	2.3	17.1	3.0	3.1	1.9
33	27.8	1.0	351	17	8.4	1.5	8.3	2.5	3.1	1.5
34	26.4	1.1	366	22	11.9	2.0	11.8	2.3	3.1	1.3
35	24.2	1.1	299	28	19.4	2.2	18.6	2.8	2.9	1.8
35	28.8	2.2	411	14	9.5	2.0	9.1	2.5	3.5	1.3
35	30.9	1.1	416	15	10.1	1.9	9.2	2.7	4.6	1.4
36	15.9	1.2	91	62	22.8	2.2	22.3	3.7	3.1	2.7
37	18.6	1.2	153	81	23.7	2.4	23.3	4.1	3.1	3.0
38	13.7	1.3	12	2	27.4	2.4	27.7	5.3	3.3	4.5
39	30.3	0.9	462	14	5.8	1.8	5.5	2.6	3.2	1.5
40	08.1	1.4	10	1	35.1	2.3	34.9	9.2	5.0	8.1
41	15.7	1.2	71	28	24.3	3.3	23.8	5.0	3.5	4.0
41	14.4	3.5	52	26	26.5	4.2	26.5	6.9	5.3	5.3
42	24.1	1.0	385	33	17.0	1.7	17.1	2.9	2.7	2.0
42	28.8	1.0	460	22	9.8	2.1	9.7	2.8	3.1	1.8
42	20.7	1.2	317	80	20.1	1.8	20.0	3.6	3.0	2.7
43	10.9	1.3	11	2	27.8	2.9	27.5	9.0	5.4	7.7
45	27.6	1.1	433	17	13.8	1.2	14.0	3.1	3.0	2.2

Legend: DYR = ratio of peak of PDP to average value of its tail; CBW = correlation bandwidth; A/Ch = average excess path loss for ten 20 MHz wide channels; Med A/Ch = median excess path loss for ten 20 MHz channels; DA/Ch = average max-min excess path loss for ten 20 MHz channels; Med DA/Ch = average max-min excess path loss for ten 20 MHz channels.

Table 3. Broadband LMDS Area Coverage Survey: Summary of Processed Data Using 16-m Transmitter Height.

Station	File	Dist (Km)	A (dB)	SA (dB)	D10 (ns)	SD10 (ns)	D15 (ns)	SD15 (ns)	Dm (ns)	SDm (ns)	DYR (dB)
1	u1p2	1.981	-3.4	0.4	0.7	< .1	0.8	< .1	5.2	0.5	41.7
1	u3p37	1.981	-0.5	0.3	0.9	< .1	1.2	0.1	2.1	0.2	27.1
2	u1p4	2.743	30.4	0.6	2.3	0.9	ND	ND	8.2	9.3	14.6
3	u1p8	2.819	27.8	0.6	4.0	1.6	18.8	19.2	8.9	6.1	17.4
3	u1p7	2.819	27.3	0.4	2.4	0.9	6.4	1.3	5.2	1.3	18.9
4	u1p10	3.749	28.0	0.4	5.5	0.4	ND	ND	5.1	0.7	13.0
4	u1p11	3.749	20.7	0.4	1.5	< .1	1.7	0.3	1.7	0.3	19.6
5	u1p14	4.084	18.2	0.3	1.0	< .1	1.2	0.1	1.6	0.2	24.6
6	u1p17	4.435	9.0	0.1	0.9	< .1	1.0	< .1	1.5	0.1	30.6
7	u1p20	4.252	30.4	0.8	0.0	< .1	ND	ND	5.2	8.9	4.9
8	u1p22	4.627	22.2	0.4	1.0	0.2	2.7	0.4	2.5	0.5	20.4
8	u1p25	4.627	3.5	1.4	0.9	0.3	1.0	0.4	1.8	0.6	31.7
9	u1p32	5.437	26.9	0.5	4.1	1.4	ND	ND	3.7	0.7	12.4
10	u1p35	5.588	13.1	0.6	1.0	0.7	1.4	0.2	2.3	0.7	25.3
11	u1p38	6.377	6.9	0.2	0.7	< .1	0.9	< .1	1.7	0.1	30.5
12	u1p42	5.452	12.8	1.7	0.8	1.4	1.0	< .1	1.7	1.3	27.1
13	u1p46	5.351	19.7	0.2	0.9	< .1	1.7	0.2	1.7	0.3	21.0
14	u1p44	6.855	0.5	0.1	0.7	< .1	0.8	< .1	1.4	< .1	32.1
15	u3p80	4.431	22.4	0.5	1.6	< .1	2.2	1.2	1.8	0.4	17.4
16	u1p29	5.258	8.9	0.3	1.0	< .1	1.2	< .1	2.0	0.3	27.2
17	u3p8	4.707	7.8	0.3	1.0	< .1	1.5	< .1	3.0	1.5	31.4
18	u3p10	4.758	22.3	0.4	0.8	0.4	1.4	0.5	1.5	1.2	20.0
19	u3p12	4.798	8.1	0.3	1.2	< .1	1.5	< .1	2.2	0.4	30.1
20	u3p14	4.749	20.2	0.3	1.4	< .1	1.8	0.2	1.8	0.3	19.7
21	u3p16	4.873	19.4	1.0	1.1	0.1	1.4	0.2	1.6	0.5	20.9
22	u3p18	4.873	21.8	0.7	0.7	0.1	1.1	0.4	1.1	0.5	19.5
23	u3p20	4.946	30.4	0.6	ND	ND	ND	ND	2.2	2.1	9.1
24	u3p22	4.940	19.7	0.3	0.9	< .1	1.1	< .1	1.2	0.2	21.5
25	u3p24	5.004	24.7	0.6	1.5	0.3	8.8	< .1	1.7	0.7	14.9
25	u3p26	5.004	20.0	0.3	1.4	0.1	2.0	0.3	1.8	0.3	19.1
26	u3p28	4.495	14.5	0.2	0.7	< .1	0.8	0.1	1.9	0.1	27.2
27	u3p30	4.497	20.9	0.2	1.0	< .1	1.2	0.2	1.5	0.3	21.5
28	u3p32	4.497	24.1	0.3	3.1	1.0	5.8	0.5	4.9	0.6	18.6
29	u3p35	4.489	21.4	0.3	0.9	< .1	1.4	0.2	1.5	0.3	20.6
30	u3p42	4.656	24.1	1.3	1.5	0.3	2.0	1.1	1.7	0.6	16.6
31	u3p45	5.033	13.7	0.3	0.8	< .1	0.8	< .1	1.1	0.3	25.6
32	u3p47	5.105	10.7	0.2	0.7	< .1	0.9	< .1	1.9	0.1	29.3
33	u3p50	5.143	22.6	0.7	1.4	3.4	4.1	2.2	2.3	3.6	16.8
34	u3p53	5.174	29.3	0.8	ND	ND	ND	ND	2.3	5.2	8.9
35	u1p51	3.485	32.1	0.4	19.5	0.6	ND	ND	12.9	1.5	9.7
35	u1p52	3.485	11.7	0.1	1.1	< .1	1.4	< .1	1.8	< .1	28.5
36	u3p55	5.241	25.8	0.5	2.6	3.9	ND	ND	2.4	3.9	13.6
37	u3p58	5.316	28.4	0.6	40.2	< .1	ND	ND	3.5	3.2	9.0
38	u3p64	5.279	21.4	0.3	0.8	< .1	1.2	0.5	1.3	0.6	19.5
39	u3p62	5.293	13.0	0.2	0.8	< .1	1.1	< .1	1.9	0.2	26.5
40	u3p66	4.570	18.6	0.9	0.7	< .1	0.9	0.1	1.2	0.3	22.5
40	u3p73	4.570	2.0	0.9	0.7	< .1	0.7	0.0	1.8	0.1	32.2
41	u3p74	5.134	17.3	0.3	1.4	< .1	1.7	< .1	1.7	0.2	21.5
42	u3p78	4.844	20.7	0.5	0.9	0.2	1.5	0.6	1.5	0.8	19.9
43	u3p82	6.927	27.1	0.5	ND	ND	ND	ND	2.1	2.4	9.1
45	u1p49	4.642	25.8	0.4	3.7	0.9	9.9	1.0	4.9	1.7	15.7
46	u4p1	1.808	30.9	0.6	3.1	0.2	5.4	1.5	3.1	0.5	14.4
47	u4p7	3.080	35.4	0.3	4.5	4.4	ND	ND	1.3	1.5	11.4

Table 3. Broadband LMDS Area Coverage Survey: Summary of Processed Data Using 16-m Transmitter Height (con't.).

Station	SDYR (dB)	CBW (MHz)	SCBW (MHz)	A/Ch (dB)	SA/Ch (dB)	Med A/Ch (dB)	DA/Ch (db)	SDA/Ch (dB)	Med DA/Ch (dB)
1	0.8	450	31.0	-4.6	1.0	-4.7	2.8	2.0	2.0
1	1.0	340	23.0	-0.7	1.7	-0.6	4.3	5.1	2.3
2	1.7	2	< .1	26.4	2.2	26.8	21.3	6.5	20.0
3	1.0	2	< .1	25.8	1.7	25.9	19.3	7.3	17.7
3	1.2	55	28.0	27.4	2.7	27.0	5.9	4.4	4.4
4	1.8	25	13.0	29.6	3.9	29.3	7.9	5.4	6.4
4	1.1	179	31.0	18.9	1.8	18.8	3.1	3.2	2.1
5	1.1	319	23.0	17.0	1.6	16.8	3.0	3.1	1.9
6	1.2	359	9.0	7.6	1.8	6.8	2.6	4.4	1.0
7	1.4	10	1.0	37.2	3.3	36.8	10.8	5.3	10.1
8	1.2	207	78.0	21.6	2.7	21.3	4.7	3.5	3.6
8	1.7	362	21.0	2.0	1.8	1.8	2.5	3.5	1.1
9	1.3	13	5.0	26.3	3.4	25.6	5.8	4.2	4.4
10	1.4	310	27.0	13.5	3.2	13.3	3.8	3.8	2.6
11	1.1	491	9.0	6.6	1.3	6.5	2.4	3.4	1.3
12	1.9	389	49.0	11.8	2.8	11.4	3.0	3.2	1.9
13	1.1	273	56.0	18.6	2.7	17.6	3.5	3.2	2.4
14	0.7	454	8.0	-0.5	1.1	-0.4	2.4	3.3	1.3
15	1.2	126	53.0	22.6	4.8	21.1	4.6	4.3	2.9
16	0.9	308	14.0	8.4	2.7	7.9	3.0	3.0	2.1
17	1.3	280	22.0	6.0	2.1	5.5	3.3	3.6	2.0
18	1.3	212	68.0	22.1	2.0	22.0	3.6	2.7	2.9
19	1.0	283	23.0	6.9	2.8	5.8	3.0	3.3	2.0
20	1.1	190	40.0	19.5	4.0	18.0	3.6	3.2	2.4
21	1.3	220	38.0	18.3	2.6	18.2	3.4	3.9	2.3
22	1.3	243	101.0	21.3	2.2	21.1	3.5	2.8	2.6
23	1.3	11	2.0	30.6	3.8	31.0	8.4	4.9	7.3
24	1.1	255	62.0	18.6	2.0	18.0	2.9	3.1	1.8
25	1.2	66	49.0	24.6	4.0	23.2	4.7	3.9	3.3
25	1.2	163	39.0	18.4	2.4	18.4	3.1	2.9	2.3
26	1.0	440	22.0	13.5	1.7	13.6	2.9	3.0	2.0
27	1.1	268	37.0	19.2	2.1	19.0	3.1	3.1	2.1
28	1.1	75	52.0	22.4	2.6	22.5	6.2	4.2	4.9
29	1.1	253	66.0	20.2	2.5	19.8	3.4	2.8	2.6
30	1.7	101	63.0	23.1	3.4	22.4	3.8	3.3	2.7
31	1.2	401	19.0	13.3	1.5	13.1	2.6	3.7	1.4
32	1.1	463	17.0	10.0	1.8	9.5	2.9	2.9	2.0
33	1.4	69	43.0	22.2	4.2	21.8	6.3	5.0	4.6
34	2.5	11	2.0	31.9	4.0	31.0	9.0	5.3	7.8
35	1.3	11	2.0	34.0	4.2	33.0	12.5	5.5	11.7
35	0.8	287	11.0	10.6	3.0	9.9	2.9	3.2	1.8
36	1.9	14	6.0	25.7	3.7	25.1	6.7	4.4	5.4
37	1.4	11	2.0	31.4	4.1	31.4	9.1	5.7	7.7
38	1.2	239	100.0	20.4	1.7	20.4	3.6	3.3	2.6
39	1.2	357	15.0	12.0	2.2	11.8	2.9	3.0	2.0
40	1.4	374	49.0	18.7	1.5	18.5	3.0	2.8	2.1
40	1.1	485	14.0	1.5	1.4	1.4	2.9	4.0	1.5
41	1.1	201	24.0	16.1	2.4	16.0	2.8	2.8	1.9
42	1.3	222	82.0	21.8	3.3	21.3	6.0	4.5	4.7
43	1.3	11	2.0	27.2	3.6	26.3	7.3	4.9	6.0
45	1.7	24	9.0	25.1	2.5	25.1	6.9	5.0	5.2
46	1.5	57	26.0	30.4	2.9	30.0	6.5	3.6	5.7
47	1.2	11	2.0	33.9	1.9	33.7	5.7	3.6	4.7

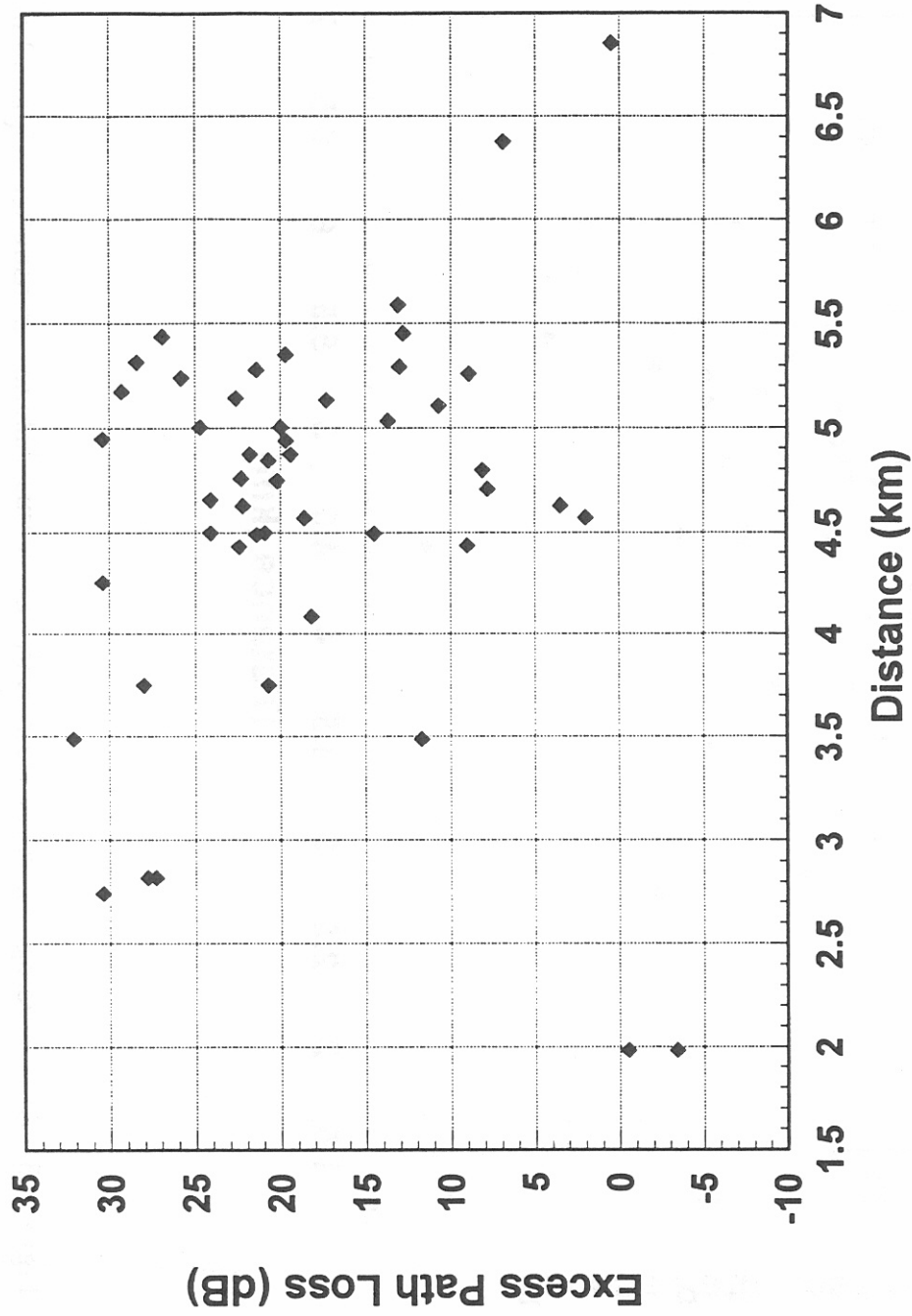


Figure 22. Area coverage survey: excess path loss versus distance, transmitter height 16 meters.