

Engineering Statement
CBS Broadcasting Inc.
KCBS-TV(Aux) Los Angeles, California
Facility ID 9628
Ch. 31 52.5 kW(Max-DA) 424 m

CBS Broadcasting Inc. ("CBS") proposes to modify the presently licensed KCBS-TV Los Angeles, California auxiliary antenna to operate on post-transition channel 31.¹ This facility will be utilized whenever both the KCBS-TV main and proposed auxiliary antennas² atop Mt. Wilson are unavailable. The proposed facility will continue to utilize the existing, directional, broadband antenna with a height of 424 meters above average terrain (HAAT) and an effective radiated power (ERP) of 52.5 kW. This Statement addresses allocations, environmental, and radiofrequency factors related to this proposal.

The attached coverage map Figure 1 demonstrates that the proposed service contour does not extend beyond that of the main KCBS-TV antenna³ as required by FCC Rule §73.1675.⁴ Because there are no AM transmitter sites within 3 kilometers of the proposed facility, FCC Rule §1.30002 will not be triggered. The nearest FCC monitoring station is 503 kilometers from the proposed facility at Livermore, California, well beyond the protection radius specified in §73.1690(c). Thus, it is believed that the proposed facility satisfies all allocation matters.

The proposed facility uses an existing tower with no change in overall height, marking specifications, or lighting specifications. No outdoor construction is proposed. Consequently, this application is categorically excluded from environmental processing. The antenna elevation pattern is provided as Figure 3. As shown, elevation pattern relative field values are 18.2 percent or less at angles ten or more degrees below the horizon. This value was used pursuant to FCC OET Bulletin No. 65 to calculate an exposure level of 18.9 $\mu\text{W}/\text{cm}^2$ or 4.9 percent of the FCC's uncontrolled/general population limit at locations near the tower base two meters above ground level. According to §1.1307(b)(3), facilities at locations with multiple

¹ See file number BXLCDT-20130624AAY. The form pre-filled pre-transition channel 43, which cannot be changed by the applicant. We will informally ask the FCC staff to correct the channel number.

² See file number 0000068231. The

³ CBS presently holds a construction permit (FCC file 0000034593) for a KCBS-TV post-transition facility on Channel 31.

⁴ §73.1675 specifies an analysis of Grade B contours. Because "Grade B" is not defined in a digital television context, Figure 1 provides dipole-corrected 41 dB μ contours instead.

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emitters are categorically excluded from responsibility for taking corrective action in areas where their contribution is less than five percent of the limit.

CBS will continue to participate in the tower owner's RF exposure safety program that, in cooperation with other broadcasters, includes restriction of access, warning signs, power reduction, and/or shutdown of facilities when predicted or measured RF exposure would otherwise exceed FCC limits. Tower access will continue to be controlled and appropriate RF exposure warning signs will continue to be posted.

KCBS-TV(CP) Post Transition Main
FCC File 0000034593
41 dBμ F(50, 90) Service Contour

Kern

35-00-00 N

118-00-00 W

117-00-00 W

KCBS-TV Proposed Auxiliary Facility
41 dBμ F(50, 90) Service Contour

Ventura

Los Angeles

270°

34-00-00 N

225°

180°

0°

45°

90°

135°

Orange

San Diego

CBS COMMUNICATIONS
SERVICES INC.

N

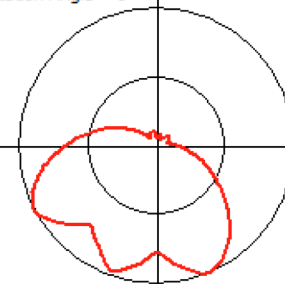
Figure 1
Proposed Facility Coverage Contours

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San Bernardino

Auxiliary Antenna Pattern

Rotation Angle = 0



Scale 1:1,500,000

0 20 40 60 km

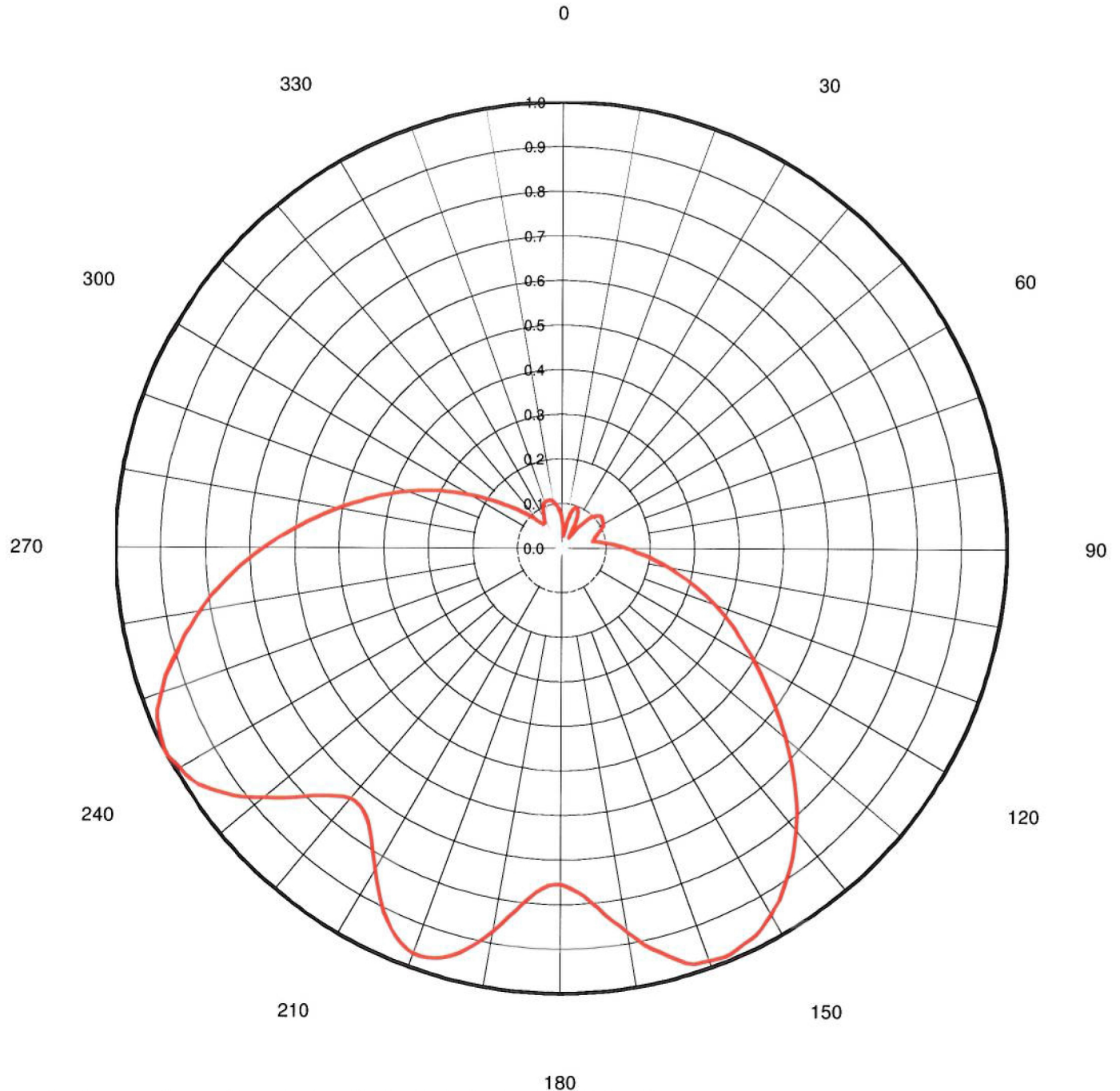
Figure 2
Existing Antenna Azimuth Pattern

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AZIMUTH PATTERN

Gain **3.00** **(4.77 dB)**
Calculated / Measured **Calculated**

Drawing # **TUA-C2-605**





TABULATION OF AZIMUTH PATTERN

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
0	0.065	45	0.100	90	0.146	135	0.745	180	0.755	225	0.787	270	0.670	315	0.102
1	0.058	46	0.103	91	0.154	136	0.762	181	0.755	226	0.803	271	0.653	316	0.096
2	0.051	47	0.106	92	0.162	137	0.780	182	0.757	227	0.822	272	0.637	317	0.089
3	0.043	48	0.109	93	0.169	138	0.796	183	0.764	228	0.839	273	0.620	318	0.084
4	0.036	49	0.111	94	0.180	139	0.811	184	0.774	229	0.855	274	0.604	319	0.080
5	0.030	50	0.112	95	0.190	140	0.825	185	0.786	230	0.873	275	0.588	320	0.076
6	0.028	51	0.113	96	0.200	141	0.839	186	0.801	231	0.891	276	0.572	321	0.072
7	0.029	52	0.114	97	0.210	142	0.854	187	0.817	232	0.909	277	0.556	322	0.068
8	0.033	53	0.113	98	0.219	143	0.868	188	0.836	233	0.924	278	0.539	323	0.067
9	0.040	54	0.112	99	0.231	144	0.881	189	0.854	234	0.937	279	0.525	324	0.068
10	0.049	55	0.112	100	0.242	145	0.893	190	0.872	235	0.950	280	0.510	325	0.068
11	0.058	56	0.111	101	0.254	146	0.905	191	0.890	236	0.962	281	0.495	326	0.069
12	0.066	57	0.110	102	0.266	147	0.918	192	0.906	237	0.975	282	0.480	327	0.069
13	0.073	58	0.110	103	0.278	148	0.930	193	0.922	238	0.983	283	0.465	328	0.073
14	0.080	59	0.109	104	0.291	149	0.939	194	0.935	239	0.987	284	0.451	329	0.076
15	0.086	60	0.108	105	0.304	150	0.947	195	0.947	240	0.991	285	0.438	330	0.079
16	0.090	61	0.107	106	0.316	151	0.956	196	0.956	241	0.996	286	0.424	331	0.082
17	0.092	62	0.106	107	0.328	152	0.964	197	0.962	242	1.000	287	0.410	332	0.085
18	0.094	63	0.103	108	0.341	153	0.972	198	0.967	243	1.000	288	0.397	333	0.090
19	0.096	64	0.100	109	0.355	154	0.975	199	0.968	244	0.996	289	0.384	334	0.094
20	0.097	65	0.097	110	0.368	155	0.979	200	0.967	245	0.992	290	0.370	335	0.098
21	0.096	66	0.094	111	0.381	156	0.983	201	0.963	246	0.989	291	0.357	336	0.102
22	0.094	67	0.091	112	0.393	157	0.986	202	0.956	247	0.985	292	0.343	337	0.105
23	0.091	68	0.088	113	0.406	158	0.988	203	0.946	248	0.977	293	0.329	338	0.108
24	0.089	69	0.086	114	0.419	159	0.985	204	0.935	249	0.966	294	0.316	339	0.109
25	0.085	70	0.084	115	0.433	160	0.983	205	0.922	250	0.955	295	0.303	340	0.110
26	0.080	71	0.082	116	0.446	161	0.981	206	0.907	251	0.945	296	0.289	341	0.110
27	0.073	72	0.080	117	0.458	162	0.980	207	0.890	252	0.934	297	0.275	342	0.111
28	0.066	73	0.077	118	0.472	163	0.972	208	0.871	253	0.920	298	0.262	343	0.111
29	0.058	74	0.077	119	0.486	164	0.959	209	0.853	254	0.907	299	0.250	344	0.111
30	0.050	75	0.076	120	0.500	165	0.947	210	0.834	255	0.895	300	0.237	345	0.111
31	0.041	76	0.075	121	0.515	166	0.934	211	0.816	256	0.882	301	0.225	346	0.111
32	0.034	77	0.073	122	0.529	167	0.921	212	0.798	257	0.870	302	0.212	347	0.110
33	0.029	78	0.071	123	0.545	168	0.907	213	0.781	258	0.855	303	0.202	348	0.109
34	0.028	79	0.076	124	0.560	169	0.890	214	0.767	259	0.841	304	0.192	349	0.107
35	0.031	80	0.081	125	0.577	170	0.873	215	0.754	260	0.826	305	0.181	350	0.105
36	0.038	81	0.085	126	0.593	171	0.857	216	0.744	261	0.812	306	0.171	351	0.103
37	0.046	82	0.090	127	0.609	172	0.843	217	0.737	262	0.798	307	0.161	352	0.100
38	0.056	83	0.096	128	0.627	173	0.827	218	0.734	263	0.782	308	0.153	353	0.097
39	0.064	84	0.103	129	0.643	174	0.811	219	0.732	264	0.766	309	0.145	354	0.094
40	0.072	85	0.110	130	0.660	175	0.797	220	0.734	265	0.751	310	0.137	355	0.090
41	0.079	86	0.117	131	0.677	176	0.785	221	0.740	266	0.735	311	0.129	356	0.086
42	0.085	87	0.124	132	0.694	177	0.775	222	0.750	267	0.719	312	0.122	357	0.082
43	0.091	88	0.130	133	0.712	178	0.766	223	0.761	268	0.703	313	0.116	358	0.077
44	0.096	89	0.138	134	0.728	179	0.759	224	0.773	269	0.686	314	0.109	359	0.071

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Figure 3
Existing Antenna Elevation Pattern

KCBS-TV(Aux) Los Angeles, California
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ELEVATION PATTERN

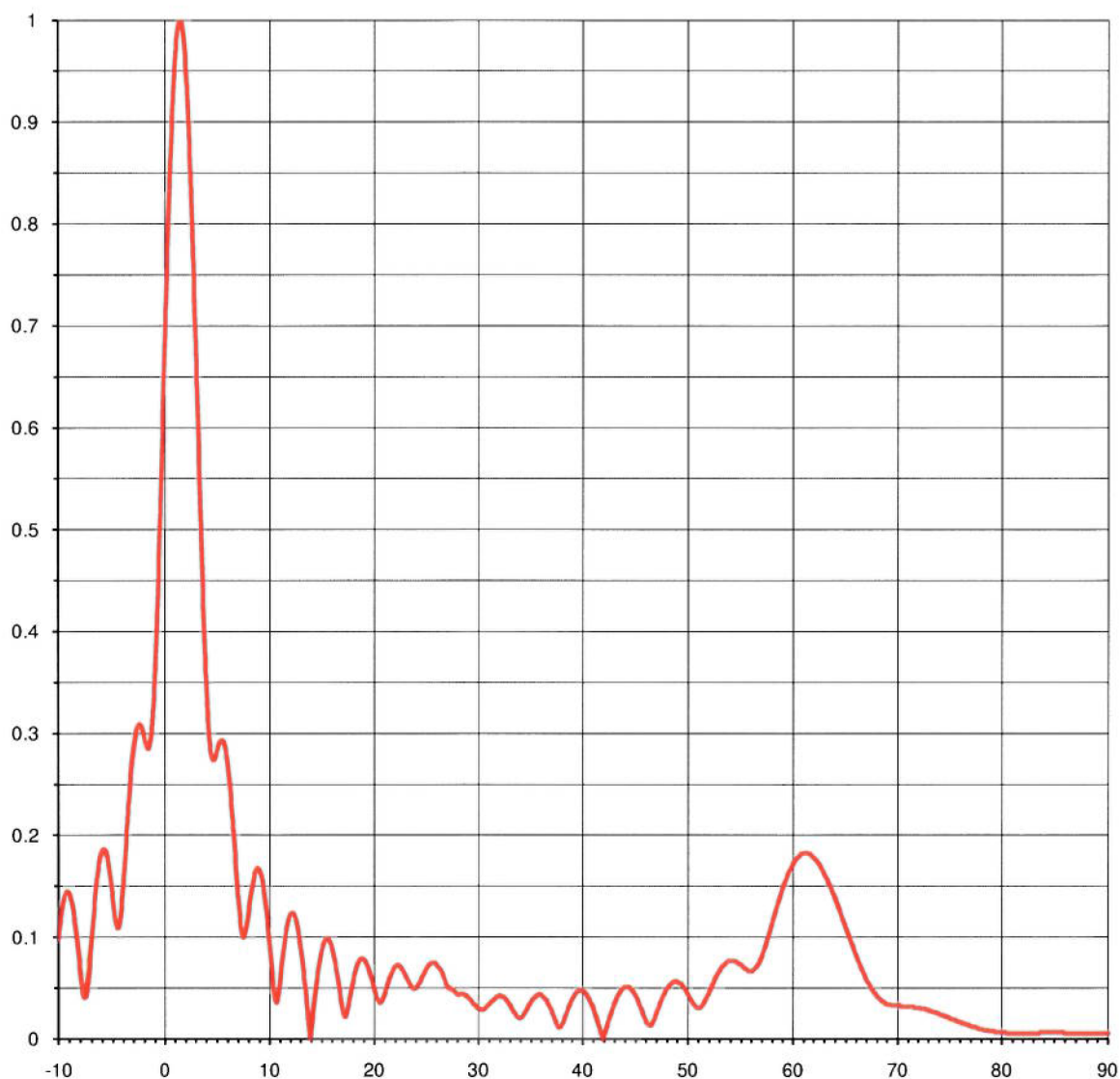
RMS Gain at Main Lobe **16.00 (12.04 dB)**

RMS Gain at Horizontal **7.60 (8.81 dB)**

Calculated / Measured **Calculated**

Drawing #

08U160150-90





Antenna Type **TUA-C2-8/16M-1**

TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing #: **08U160150-90**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.098	2.4	0.868	10.6	0.039	30.5	0.029	51.0	0.031	71.5	0.032
-9.5	0.136	2.6	0.809	10.8	0.037	31.0	0.034	51.5	0.033	72.0	0.031
-9.0	0.144	2.8	0.744	11.0	0.051	31.5	0.039	52.0	0.043	72.5	0.030
-8.5	0.121	3.0	0.674	11.5	0.095	32.0	0.043	52.5	0.055	73.0	0.028
-8.0	0.072	3.2	0.601	12.0	0.121	32.5	0.041	53.0	0.066	73.5	0.027
-7.5	0.043	3.4	0.528	12.5	0.121	33.0	0.034	53.5	0.073	74.0	0.025
-7.0	0.097	3.6	0.458	13.0	0.095	33.5	0.026	54.0	0.077	74.5	0.023
-6.5	0.155	3.8	0.396	13.5	0.051	34.0	0.021	54.5	0.077	75.0	0.021
-6.0	0.184	4.0	0.344	14.0	0.001	34.5	0.026	55.0	0.074	75.5	0.019
-5.5	0.177	4.2	0.305	14.5	0.050	35.0	0.035	55.5	0.069	76.0	0.017
-5.0	0.140	4.4	0.282	15.0	0.084	35.5	0.042	56.0	0.067	76.5	0.015
-4.5	0.109	4.6	0.274	15.5	0.098	36.0	0.044	56.5	0.070	77.0	0.013
-4.0	0.148	4.8	0.276	16.0	0.092	36.5	0.039	57.0	0.079	77.5	0.011
-3.5	0.225	5.0	0.283	16.5	0.067	37.0	0.029	57.5	0.093	78.0	0.010
-3.0	0.286	5.2	0.290	17.0	0.034	37.5	0.016	58.0	0.111	78.5	0.009
-2.8	0.300	5.4	0.293	17.5	0.027	38.0	0.013	58.5	0.128	79.0	0.008
-2.6	0.307	5.6	0.292	18.0	0.053	38.5	0.025	59.0	0.145	79.5	0.007
-2.4	0.308	5.8	0.284	18.5	0.074	39.0	0.038	59.5	0.159	80.0	0.007
-2.2	0.304	6.0	0.270	19.0	0.079	39.5	0.046	60.0	0.170	80.5	0.006
-2.0	0.296	6.2	0.249	19.5	0.070	40.0	0.048	60.5	0.178	81.0	0.006
-1.8	0.288	6.4	0.224	20.0	0.052	40.5	0.043	61.0	0.182	81.5	0.006
-1.6	0.285	6.6	0.196	20.5	0.037	41.0	0.033	61.5	0.182	82.0	0.006
-1.4	0.294	6.8	0.166	21.0	0.043	41.5	0.017	62.0	0.179	82.5	0.006
-1.2	0.317	7.0	0.138	21.5	0.060	42.0	0.000	62.5	0.173	83.0	0.006
-1.0	0.356	7.2	0.115	22.0	0.071	42.5	0.018	63.0	0.164	83.5	0.006
-0.8	0.409	7.4	0.102	22.5	0.072	43.0	0.033	63.5	0.153	84.0	0.007
-0.6	0.473	7.6	0.102	23.0	0.064	43.5	0.045	64.0	0.141	84.5	0.007
-0.4	0.543	7.8	0.112	23.5	0.054	44.0	0.051	64.5	0.124	85.0	0.007
-0.2	0.616	8.0	0.127	24.0	0.050	44.5	0.051	65.0	0.109	85.5	0.007
0.0	0.688	8.2	0.142	24.5	0.057	45.0	0.045	65.5	0.095	86.0	0.006
0.2	0.758	8.4	0.155	25.0	0.068	45.5	0.034	66.0	0.082	86.5	0.006
0.4	0.822	8.6	0.164	25.5	0.075	46.0	0.021	66.5	0.069	87.0	0.006
0.6	0.879	8.8	0.168	26.0	0.074	46.5	0.014	67.0	0.058	87.5	0.006
0.8	0.927	9.0	0.166	26.5	0.067	47.0	0.023	67.5	0.049	88.0	0.006
1.0	0.964	9.2	0.159	27.0	0.054	47.5	0.037	68.0	0.042	88.5	0.006
1.2	0.988	9.4	0.147	27.5	0.049	48.0	0.048	68.5	0.037	89.0	0.006
1.4	0.999	9.6	0.131	28.0	0.045	48.5	0.055	69.0	0.034	89.5	0.006
1.6	0.998	9.8	0.121	28.5	0.045	49.0	0.057	69.5	0.033	90.0	0.006
1.8	0.983	10.0	0.100	29.0	0.042	49.5	0.054	70.0	0.033		
2.0	0.956	10.2	0.077	29.5	0.036	50.0	0.046	70.5	0.032		
2.2	0.917	10.4	0.055	30.0	0.031	50.5	0.037	71.0	0.032		

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