

SECOND ADJACENT CHANNEL WAIVER REQUEST

The following engineering statement and attached exhibits have been prepared as a request for waiver of the spacing requirements of Section 73.807 with regard to second adjacent stations in the vicinity of the proposed facility. The technical data contained within this waiver request will demonstrate that the proposed LPFM facility would not cause interference to any facility on a second adjacent channel to which the spacing requirements of Section 73.807 are not fully met.

The proposed facility would be short-spaced to WMIA-FM at Miami Beach, Florida. The Facility ID for WMIA-FM is 51978. The proposed facility is located at a distance of 7.6 kilometers from WMIA-FM.

Exhibit W-1 depicts the proposed LPFM site along with the WMIA-FM 101.8 dBu service contour. As this map demonstrates, this contour would intersect the proposed LPFM site. Since the proposed LPFM facility would operate second adjacent to WMIA-FM, interference to WMIA-FM is predicted to potentially occur when the LPFM field strength is at least 40 dB above the field strength of WMIA-FM. Specifically this would occur in regions where the LPFM field strength is at least 141.8 dBu.

The power density at the interfering field strength is determined by the following equation:

$$S = \frac{E^2}{Z_0}$$

In this equation, S represents the calculated power density in Watts per square meter, E is the electric field intensity, and Z_0 is the characteristic impedance of free space of 377 ohms.

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The power density is also given by:

$$S = \frac{P}{4\pi R^2}$$

Where S is the same units, P is the power in Watts, and R is the distance from the antenna at which this field strength occurs.¹ Rearranging the terms in the equation, it can be solved for the distance to the desired power density as follows:

$$R^2 = \frac{P}{4\pi S}$$

The results of these calculations for depression angles of 0 degrees to 90 degrees are tabulated in Exhibit W-2, including the relevant variables from the above equations. The relative field values depicted in Exhibit W-2 are from the manufacturer data for the proposed antenna type, which is a single bay Nicom BKG77 model.

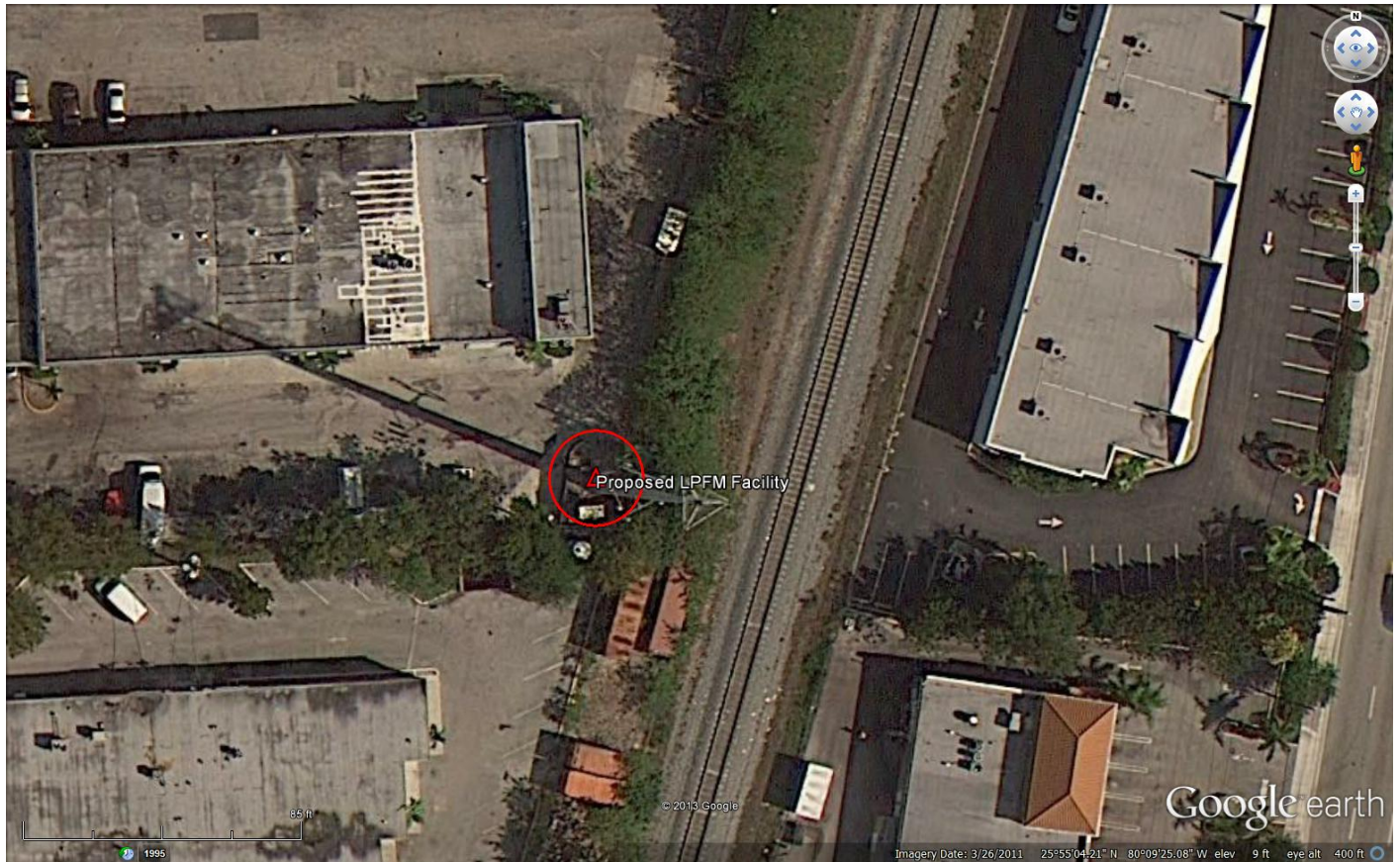
As the tabulation in Exhibit W-2 demonstrates, the maximum distance at any angle of the field strength that would potentially cause interference to either facility is 4.45 meters. The following satellite image illustrates the vicinity of the proposed location along with this 4.45 meter radius.

¹ It should be noted that this distance is the distance from the antenna, which will not necessarily be equivalent to the distance from the supporting structure.

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This image demonstrates that there are no structures within a 4.45 meter radius of the tower base, with the exception of the uninhabited equipment shelter. Given, however, that the proposed center of radiation is 27.0 meters AGL, and the maximum distance to the interference region is 4.45 meters, none of the interference to WMIA-FM that would potentially occur would reach ground level. As a result of these conditions, zero population is predicted to be impacted by the proposed facility. Since zero population would be impacted, a waiver of Section 73.807 of the Commission's Rules is respectfully requested.

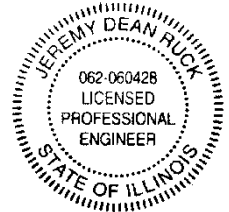
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This waiver request and associated exhibits have been prepared by me at the request of the representative of the applicant. The waiver request text and related exhibits are true and accurate to the best of my belief and knowledge.



Above signature is digitized copy of actual signature
License Expires November 30, 2015

Jeremy D. Ruck, PE
October 26, 2013

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ACC219

Latitude: 25-55-02.70 N
Longitude: 080-09-26.40 W
ERP: 0.10 kW
Channel: 232
Frequency: 94.3 MHz
AMSL Height: 30.0 m
Horiz. Pattern: Omni

Jeremy Ruck & Associates, Inc.

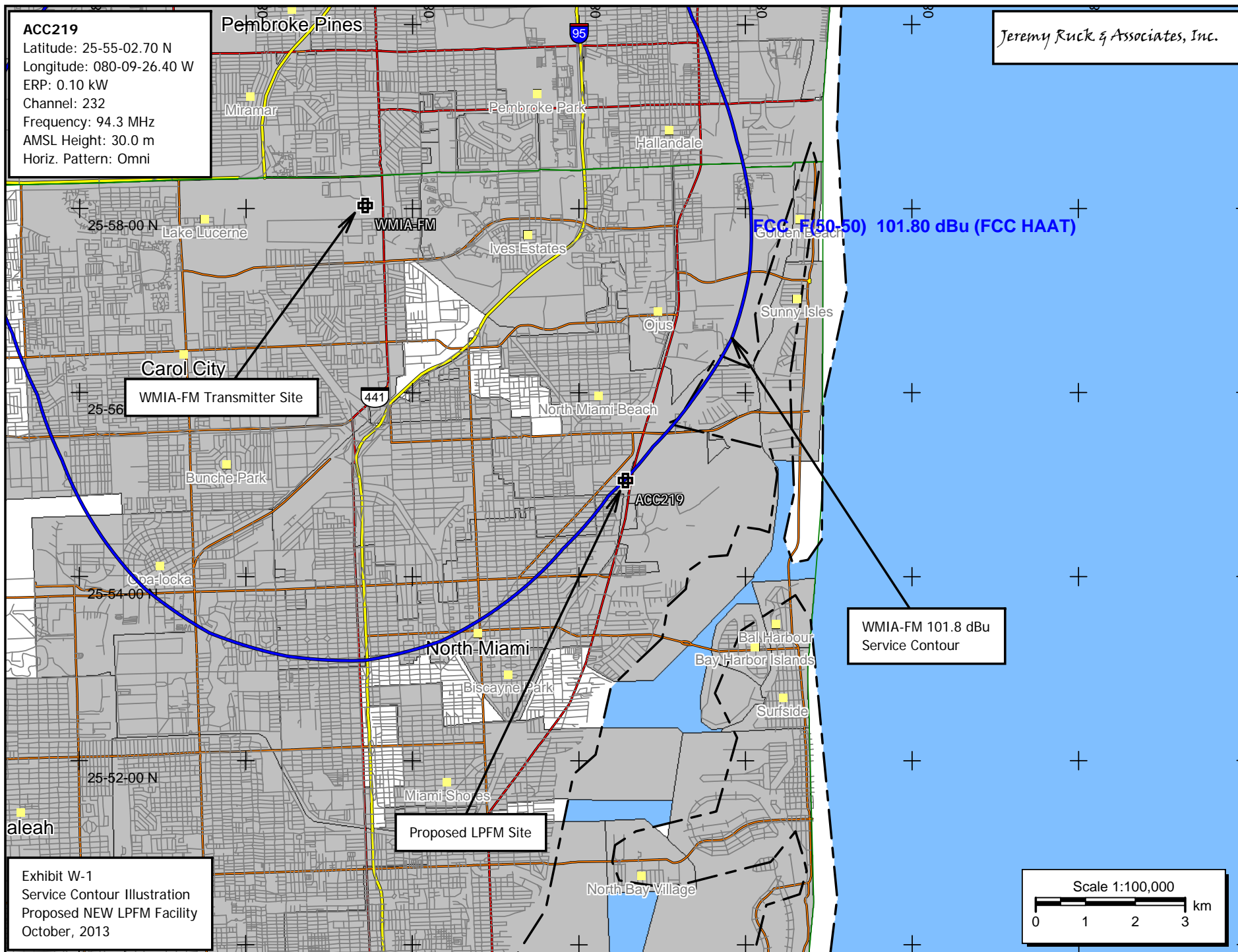
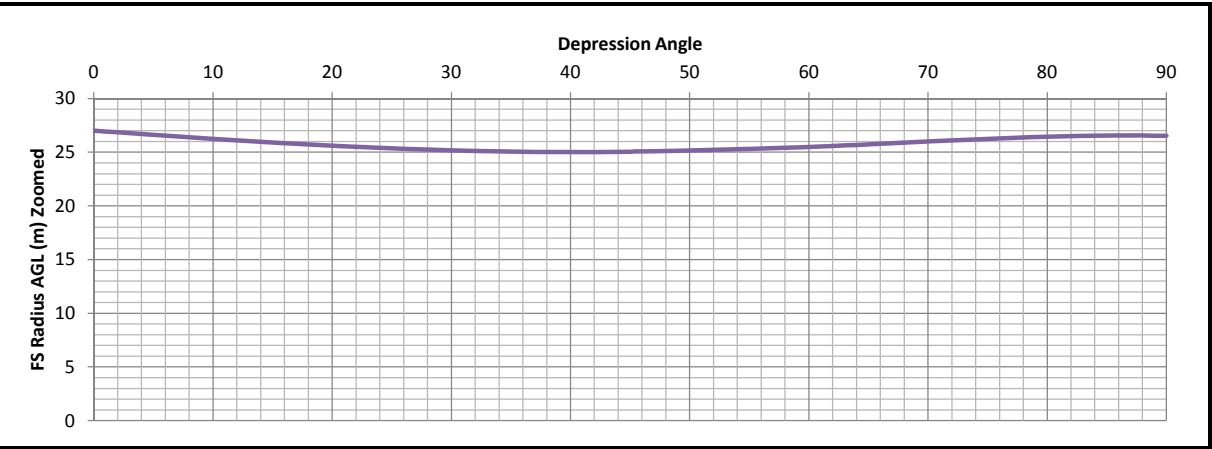
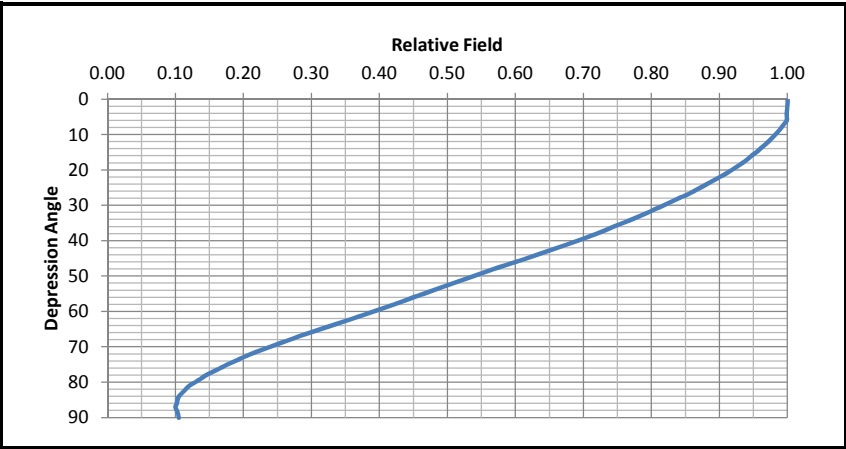


Exhibit W-2

Proximity Interference Analysis

NEW LPFM Facility

Antenna No:	41	↕	↕	Center of Radiation:	27 m AGL
Manufacturer:	Nicom	↕↕↕		Effective Radiated Power:	100 Watts
Model:	BKG-77			FS Contour:	141.8 dBu
Number of Bays:	1			E Field Strength:	12.30269 V/m
Bay Spacing:	Lambda			Z0 (Ohms):	377 Ohms
				Power Density:	0.401475132 W/m^2



Depression Angle	Relative Field	Relative Power	ERP Watts	Radii in meters			
				Field Strength	Horizontal	Vertical	AGL
0	1.0000	1.0000	100.00	4.45	4.45	0.00	27.00
1	1.0000	1.0000	100.00	4.45	4.45	0.08	26.92
2	1.0000	1.0000	100.00	4.45	4.45	0.16	26.84
3	0.9990	0.9980	99.80	4.45	4.44	0.23	26.77
4	0.9990	0.9980	99.80	4.45	4.44	0.31	26.69
5	0.9990	0.9980	99.80	4.45	4.43	0.39	26.61
6	0.9990	0.9980	99.80	4.45	4.42	0.46	26.54
7	0.9950	0.9900	99.00	4.43	4.40	0.54	26.46
8	0.9910	0.9821	98.21	4.41	4.37	0.61	26.39
9	0.9870	0.9742	97.42	4.39	4.34	0.69	26.31
10	0.9820	0.9643	96.43	4.37	4.31	0.76	26.24
11	0.9770	0.9545	95.45	4.35	4.27	0.83	26.17
12	0.9720	0.9448	94.48	4.33	4.23	0.90	26.10
13	0.9660	0.9332	93.32	4.30	4.19	0.97	26.03
14	0.9600	0.9216	92.16	4.27	4.15	1.03	25.97
15	0.9540	0.9101	91.01	4.25	4.10	1.10	25.90
16	0.9470	0.8968	89.68	4.22	4.05	1.16	25.84
17	0.9410	0.8855	88.55	4.19	4.01	1.22	25.78
18	0.9340	0.8724	87.24	4.16	3.95	1.28	25.72
19	0.9260	0.8575	85.75	4.12	3.90	1.34	25.66
20	0.9180	0.8427	84.27	4.09	3.84	1.40	25.60
21	0.9100	0.8281	82.81	4.05	3.78	1.45	25.55
22	0.9000	0.8100	81.00	4.01	3.72	1.50	25.50
23	0.8910	0.7939	79.39	3.97	3.65	1.55	25.45
24	0.8810	0.7762	77.62	3.92	3.58	1.60	25.40
25	0.8720	0.7604	76.04	3.88	3.52	1.64	25.36
26	0.8620	0.7430	74.30	3.84	3.45	1.68	25.32
27	0.8520	0.7259	72.59	3.79	3.38	1.72	25.28
28	0.8400	0.7056	70.56	3.74	3.30	1.76	25.24
29	0.8290	0.6872	68.72	3.69	3.23	1.79	25.21
30	0.8180	0.6691	66.91	3.64	3.15	1.82	25.18
31	0.8060	0.6496	64.96	3.59	3.08	1.85	25.15
32	0.7950	0.6320	63.20	3.54	3.00	1.88	25.12
33	0.7830	0.6131	61.31	3.49	2.92	1.90	25.10
34	0.7710	0.5944	59.44	3.43	2.85	1.92	25.08
35	0.7580	0.5746	57.46	3.37	2.76	1.94	25.06
36	0.7450	0.5550	55.50	3.32	2.68	1.95	25.05
37	0.7320	0.5358	53.58	3.26	2.60	1.96	25.04
38	0.7190	0.5170	51.70	3.20	2.52	1.97	25.03
39	0.7060	0.4984	49.84	3.14	2.44	1.98	25.02
40	0.6910	0.4775	47.75	3.08	2.36	1.98	25.02
41	0.6760	0.4570	45.70	3.01	2.27	1.97	25.03
42	0.6610	0.4369	43.69	2.94	2.19	1.97	25.03
43	0.6460	0.4173	41.73	2.88	2.10	1.96	25.04
44	0.6310	0.3982	39.82	2.81	2.02	1.95	25.05
45	0.6160	0.3795	37.95	2.74	1.94	1.94	25.06

Depression Angle	Relative Field	Relative Power	ERP Watts	Radii in meters			
				Field Strength	Horizontal	Vertical	AGL
45	0.6160	0.3795	37.95	2.74	1.94	1.94	25.06
46	0.6000	0.3600	36.00	2.67	1.86	1.92	25.08
47	0.5840	0.3411	34.11	2.60	1.77	1.90	25.10
48	0.5680	0.3226	32.26	2.53	1.69	1.88	25.12
49	0.5530	0.3058	30.58	2.46	1.62	1.86	25.14
50	0.5387	0.2902	29.02	2.40	1.54	1.84	25.16
51	0.5230	0.2735	27.35	2.33	1.47	1.81	25.19
52	0.5080	0.2581	25.81	2.26	1.39	1.78	25.22
53	0.4940	0.2440	24.40	2.20	1.32	1.76	25.24
54	0.4790	0.2294	22.94	2.13	1.25	1.73	25.27
55	0.4650	0.2162	21.62	2.07	1.19	1.70	25.30
56	0.4500	0.2025	20.25	2.00	1.12	1.66	25.34
57	0.4360	0.1901	19.01	1.94	1.06	1.63	25.37
58	0.4210	0.1772	17.72	1.87	0.99	1.59	25.41
59	0.4060	0.1648	16.48	1.81	0.93	1.55	25.45
60	0.3910	0.1529	15.29	1.74	0.87	1.51	25.49
61	0.3760	0.1414	14.14	1.67	0.81	1.46	25.54
62	0.3610	0.1303	13.03	1.61	0.75	1.42	25.58
63	0.3450	0.1190	11.90	1.54	0.70	1.37	25.63
64	0.3290	0.1082	10.82	1.46	0.64	1.32	25.68
65	0.3130	0.0980	9.80	1.39	0.59	1.26	25.74
66	0.2970	0.0882	8.82	1.32	0.54	1.21	25.79
67	0.2820	0.0795	7.95	1.26	0.49	1.16	25.84
68	0.2680	0.0718	7.18	1.19	0.45	1.11	25.89
69	0.2530	0.0640	6.40	1.13	0.40	1.05	25.95
70	0.2390	0.0571	5.71	1.06	0.36	1.00	26.00
71	0.2250	0.0506	5.06	1.00	0.33	0.95	26.05
72	0.2110	0.0445	4.45	0.94	0.29	0.89	26.11
73	0.1990	0.0396	3.96	0.89	0.26	0.85	26.15
74	0.1880	0.0353	3.53	0.84	0.23	0.80	26.20
75	0.1760	0.0310	3.10	0.78	0.20	0.76	26.24
76	0.1660	0.0276	2.76	0.74	0.18	0.72	26.28
77	0.1550	0.0240	2.40	0.69	0.16	0.67	26.33
78	0.1450	0.0210	2.10	0.65	0.13	0.63	26.37
79	0.1370	0.0188	1.88	0.61	0.12	0.60	26.40
80	0.1290	0.0166	1.66	0.57	0.10	0.57	26.43
81	0.1200	0.0144	1.44	0.53	0.08	0.53	26.47
82	0.1150	0.0132	1.32	0.51	0.07	0.51	26.49
83	0.1100	0.0121	1.21	0.49	0.06	0.49	26.51
84	0.1050	0.0110	1.10	0.47	0.05	0.46	26.54
85	0.1030	0.0106	1.06	0.46	0.04	0.46	26.54
86	0.1020	0.0104	1.04	0.45	0.03	0.45	26.55
87	0.1000	0.0100	1.00	0.45	0.02	0.44	26.56
88	0.1020	0.0104	1.04	0.45	0.02	0.45	26.55
89	0.1040	0.0108	1.08	0.46	0.01	0.46	26.54
90	0.1050	0.0110	1.10	0.47	0.00	0.47	26.53

