

**Engineering Exhibit
Proposed Auxiliary Antenna
WABC-TV, Facility ID 1328
New York, New York**

**4 Times Square, New York, New York
Channel 7 11.0 KW 296 M HAAT**

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Introduction

American Broadcasting Companies, Inc., is the licensee of television station WABC-TV, New York New York. WABC-TV has been assigned FCC Facility ID Number 1328 and the former WABC-TV main license bears FCC File Number BLCT-19800730KG and specified 64.6 KW ERP at an HAAT of 491 meters. This main site was lost in the events of September 11, 2001. Since that time, WABC has been operating primarily from the Empire State Building, and has transitioned to channel 7 DTV operation on June 12, 2009, as described in BLCDT-20090612ADK, which covers BMPCDT-20080529AJT.

Proposed Auxiliary Facilities

Through this application, WABC-TV proposes to construct a DTV auxiliary facility at the 4 Times Square building in New York City. The proposed facility will use the former NTSC channel 7 auxiliary antenna that is described in BXLCT-20050923AGZ (which covers BXPCT-20040617AAD). The proposed ERP of 11.0 kW will meet the Commission's Rules for DTV auxiliary antenna service.

The 4 Times Square Building bears ASRN 1238745. The 4 Times Square site bears NAD 27 geographic coordinates of 40° 45' 22" North Latitude, 073° 59' 12" West Longitude when rounded according to the procedures outlined in the Commission's Rules. The Antenna Structure Registration states the overall height of the 4 Times Square Building is 356.0 meters above mean sea level. The proposed antenna will have a radiation center above ground level of 296.4 meters which is 311.6 meters above mean sea level. The HAAT for the proposed antenna when calculated according to the methods described in the Rules is 296.0 meters. If the HAAT were calculated through use of the rounded radiation center height above mean sea level of 312.0 meters, the HAAT calculation result is 296.5 meters.

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The non-directional antenna proposed for auxiliary antenna operation is described in the former NTSC auxiliary antenna authorization captioned above, and is a Dielectric model THA-O46H/24U-1-R. The manufacturer states the gain of the antenna is 6.1 when operating at channel 7. Electrical beam tilt of 0.5 degrees is produced by the proposed antenna when operated at channel 7.

The proposed ERP on channel 7 from this antenna is 11.0 KW or 10.41 dBk.

The site is distant from any FCC monitoring stations, radio quiet zones, and protected radio astronomy locations. It is over 375 kilometers distant from the nearest point of the Canadian border. The predicted 36 dBu contour is entirely contained within the predicted 36 dBu contour of the main facility as shown in Exhibit 1. This satisfies the requirements of Section 73.1675(a) for Auxiliary operation. The distances to contours were calculated using the methods described by the Commission, and a digitized 30 second terrain data base.

In addition, the proposed auxiliary antenna will not cause additional interference that is greater than the main facility to any allotment, application or licensed facility.

Although not required for Auxiliary service, a calculation of the 43 dBu contour shows coverage of the city of license. The proposed Auxiliary 43 dBu and 36 dBu contours and the main 43 dBu and 36 dBu contours are depicted in the figure that is labeled Exhibit 1.

The vertical or elevation pattern of the proposed antenna is shown in Exhibit 2 and contains both plots and a tabulation of the relative field. This antenna is designed to produce an electrical beam tilt of 0.5 degrees. The elevation pattern information included satisfies the requirements of Section 73.685(f)(4).

Section 73.685(g) requires that special attention be given to unwanted effects from antenna coupling when a television station operates within 20 percent of the proposed channel's frequencies with an antenna within 61 meters (approximately 200 feet) of the proposed station's antenna. For the proposed channel 7 operation, this includes frequencies above channel 7 through channel 13.

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The facilities designed for the high channel VHF television stations at 4 Times Square are part of a collaborative engineering effort to design a combining system which will permit sharing the proposed antenna with any combination of channels 7, 11, and 13. This combiner is designed to attenuate any emission beyond the individual channel edges and suppress any harmonic or intermodulation product. Measurements have been made which show compliance with the Commission's rules for NTSC operation. From the data obtained from pre-transition NTSC operation of the combined antenna system, there is reason to expect continued compliance with the Commission's rules during DTV operation. Each station will make measurements of their transmission system prior to commencement of operation with this combiner to assure compliance with the Commission's Rules regarding harmonic, spurious and out of band emissions.

Generally, a number of broadcast and non-broadcast facilities are planned as tenants at 4 Times Square and there is a possibility that some of these facilities will be located near the proposed WABC-TV Auxiliary Antenna location. Prior experience of more than four years operation of combined transmitters on channels 7, 11, and 13 and a common antenna confirms the expectation and belief that the system proposed herein will be successfully commissioned for DTV operation as well. During the prior NTSC operation, no adverse intermodulation interference has been noted nor have spurious emission difficulties or complaints been received. Because of this experience and the attention to the design of the combiner, no adverse effect from blanketing or intermodulation interference is expected.

Pertinent technical parameters are shown in the associated FCC Form 301 Section III-C, Technical Specifications. The details of the antenna elevation pattern are shown in the attached Exhibit 2. The limiting interference study for this proposal is shown in the attached Exhibit 2. The entire interference study output data is available in TV Process output format, if requested. The main and proposed auxiliary contours are shown in the attached Exhibit 1.

No construction outside the WABC leased transmitter room is required to complete the changes described herein.

Human Exposure to Radio Frequency Energy

The proposed operation will comply with the FCC's rules and guidelines pertaining to human exposure to electromagnetic energy. The calculated vertical pattern of the proposed antenna produces a relative field of less than 0.15 at angles below horizontal by 20 degrees or more and 0.10 or less for angles below horizontal greater than 42 degrees. These values when applied to the proposed ERP and an antenna radiation center height of 296.4 meters above ground level yields a calculated power density at 2 meters above ground level of less than 0.000095 mW/cm², which is less than 0.047 percent of the Limits contained in the Section 1.1310 of the Commission's Rules for uncontrolled environments. In the main beam, a distance of 42.9 meters is necessary to reach a power density level of less than 0.2 mW/cm² but the main beam is well above any nearby buildings. When angles between 20 degrees and 42 degrees below horizontal are considered, the uncontrolled limit is found at a maximum of 6.43 meters and for angles greater than 42 degrees below horizontal are considered, the limit for human exposure to radiofrequency energy is less than 4.30 meters distant from the antenna. There are no adjacent buildings nearby where the general public is present within several multiples of the distances stated above. The limit used for these calculations is 0.2 mW/cm² and is found in Section 1.1310 of the Commission's Rules. The methods used to perform these calculations are found in OET Bulletin 65, Edition 97-01, dated August 1997.

Access to the tower portion of the 4 Times Square roof-top antenna location is strictly limited by the building management. The 4 Times Square Building has established an interim policy which defines the roof area as a controlled area with restricted access for all persons. Neither workers nor members of the general public are allowed access to any areas near antennas which may be energized until the status of the systems under question have been determined to be safe. WABC-TV as a lessee is subject to the 4 Times Square RF Safety Program which is currently being revised for the 4 Times Square Building and includes restricted access to the roof area during normal broadcast operations, and the use of lock-out/tag-out procedures to prevent accidental exposure of personnel from inadvertent activation of transmitters. This policy also defines the requirement for personnel to use personal RF exposure monitors and participate in appropriate RF safety awareness training. As new licensees begin operations from the 4 Times Square Building, the RF Safety Protocol will be updated to reflect the current RF exposure levels and redefine the areas which may become restricted to prevent accidental exposure of personnel.

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Conclusion

The proposed operation of the WABC-TV auxiliary facilities at the 4 Times Square Building in New York City meets the requirements for Auxiliary Antenna operation and fully satisfies the Commission's Rules regarding auxiliary antenna operation. A grant of authority to construct this facility as described herein is in the public interest.

The technical information contained in this application and its associated engineering exhibits was prepared by me or under my direct supervision. Zar B. Aung assisted with the preparation of input data for interference calculations and the calculations themselves. Any question regarding the technical content of this application should be directed to the undersigned.



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September 9, 2009



PREDICTED COVERAGE CONTOUR

WABC-DT CH. 7, NEW YORK, NY(4 Times Square)
 11 kW, 297 mHAAT, 311.6 mRCAMSL, NON D-ANT

Predicted Noise Limited Coverage Contour
 F(50,90), 36 dBu

Predicted Principal Community Coverage Contour
 F(50,90), 43 dBu

WABC-DT CH7 CP, NEW YORK, NY(Empire St. Building)
 11.69 kW, 405 m HAAT, 418.5 m RCAMSL, NON D-ANT

Predicted Noise Limited Coverage Contour
 F(50,90), 36 dBu

Predicted Principal Community Coverage Contour
 F(50,90), 43 dBu

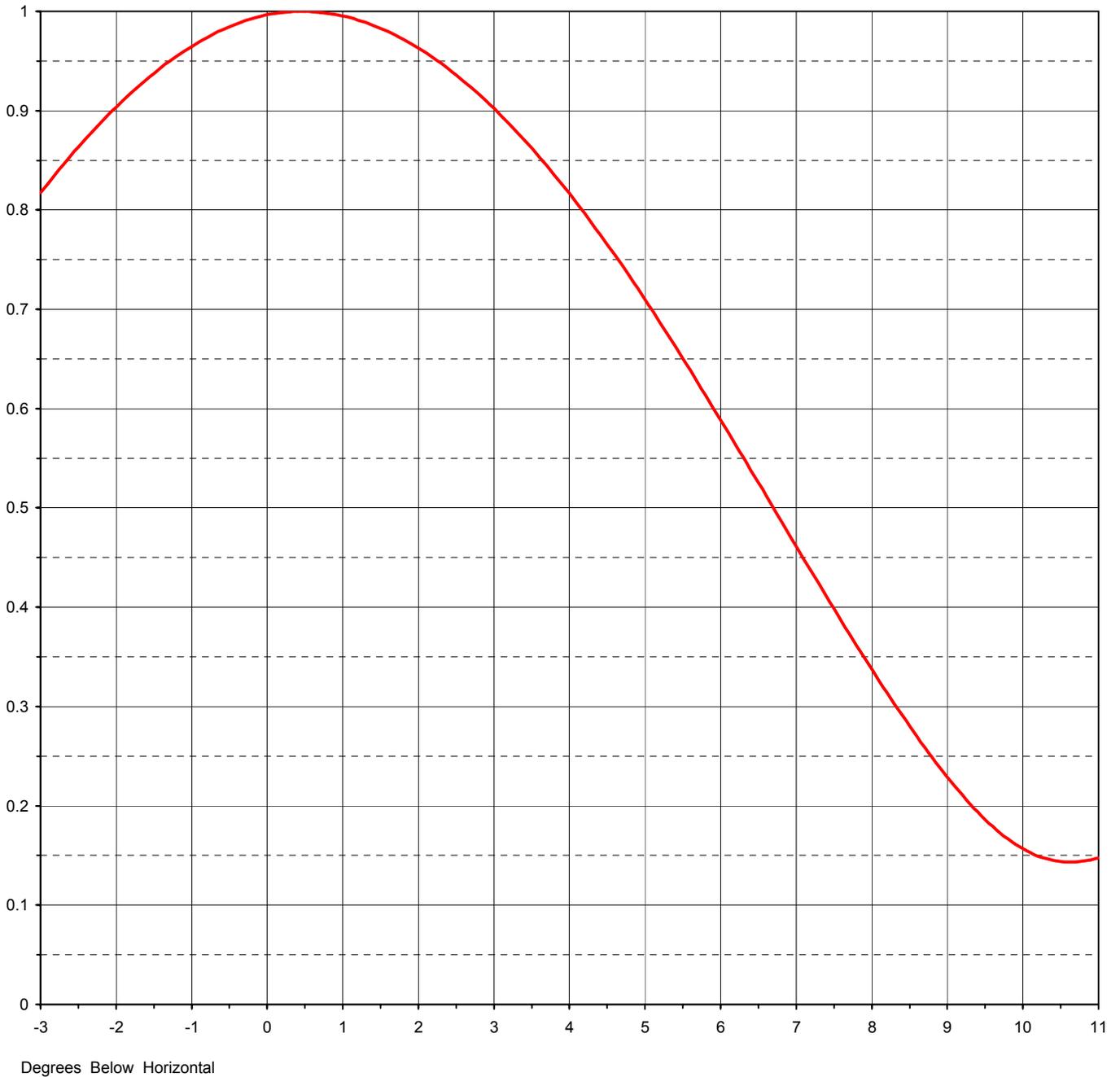
AUGUST 2009



Proposal Number **DCA-10112** Revision: **4**
Date **13-Aug-03**
Call Letters **WABC** Channel **7**
Location **New York, NY**
Customer
Antenna Type **THA-O4-6H/24U-1-R**

ELEVATION PATTERN

RMS Gain at Main Lobe	6.10 (7.85 dB)	Beam Tilt	0.50 deg
RMS Gain at Horizontal	6.10 (7.85 dB)	Frequency	177.00 MHz
Calculated / Measured	Calculated	Drawing #	06H061050

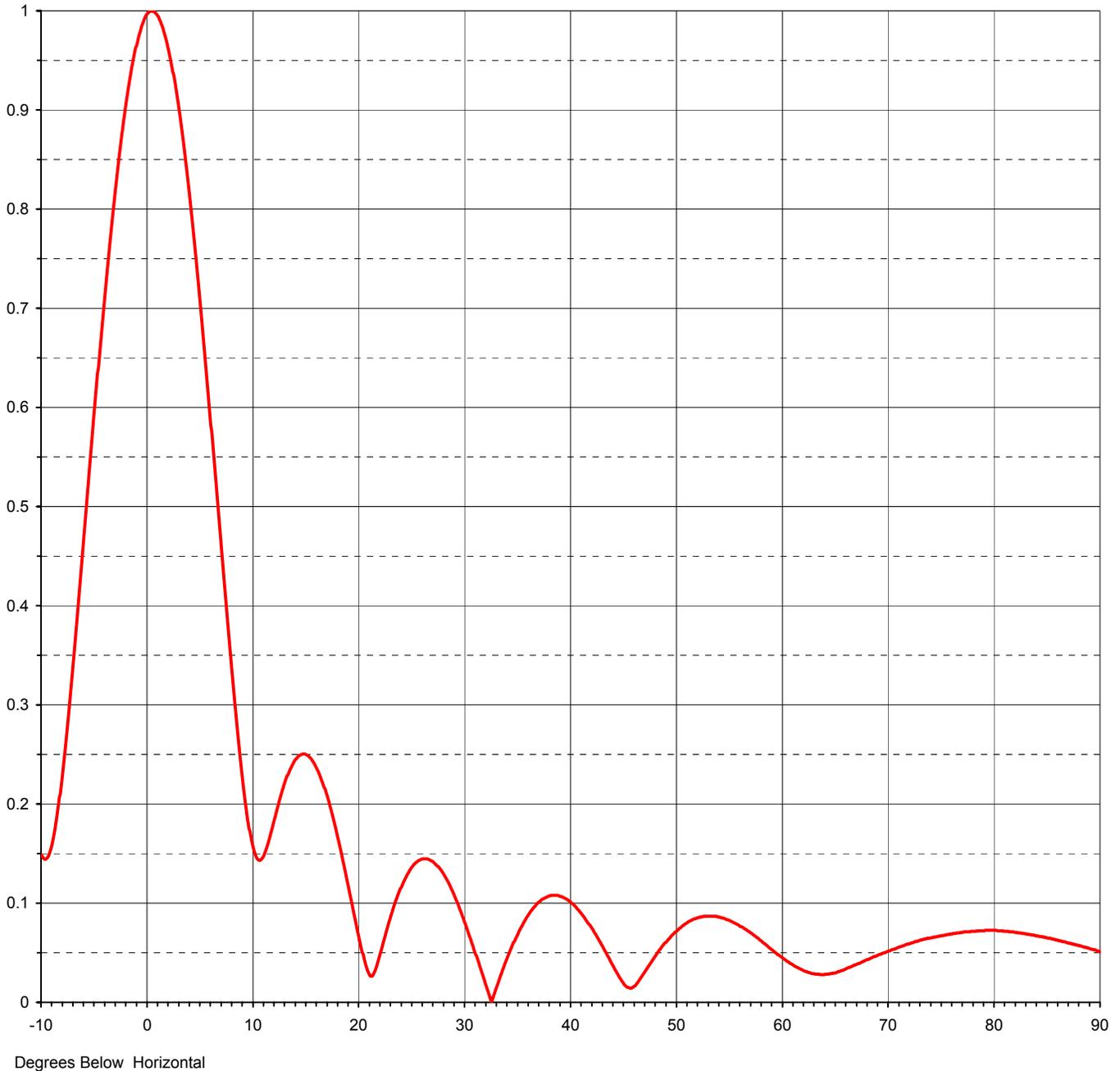




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Location **New York, NY**
Customer
Antenna Type **THA-O4-6H/24U-1-R**

ELEVATION PATTERN

RMS Gain at Main Lobe	6.10 (7.85 dB)	Beam Tilt	0.50 deg
RMS Gain at Horizontal	6.10 (7.85 dB)	Frequency	177.00 MHz
Calculated / Measured	Calculated	Drawing #	06H061050-90





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TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing #: **06H061050-90**

Angle	Field										
-10.0	0.149	2.4	0.942	10.6	0.144	30.5	0.069	51.0	0.079	71.5	0.058
-9.5	0.145	2.6	0.930	10.8	0.144	31.0	0.053	51.5	0.083	72.0	0.059
-9.0	0.157	2.8	0.916	11.0	0.146	31.5	0.037	52.0	0.085	72.5	0.061
-8.5	0.186	3.0	0.902	11.5	0.159	32.0	0.021	52.5	0.086	73.0	0.062
-8.0	0.229	3.2	0.887	12.0	0.178	32.5	0.004	53.0	0.087	73.5	0.064
-7.5	0.281	3.4	0.871	12.5	0.199	33.0	0.011	53.5	0.087	74.0	0.065
-7.0	0.338	3.6	0.853	13.0	0.217	33.5	0.027	54.0	0.086	74.5	0.066
-6.5	0.399	3.8	0.835	13.5	0.232	34.0	0.041	54.5	0.085	75.0	0.067
-6.0	0.463	4.0	0.816	14.0	0.243	34.5	0.054	55.0	0.083	75.5	0.068
-5.5	0.527	4.2	0.796	14.5	0.249	35.0	0.066	55.5	0.080	76.0	0.069
-5.0	0.591	4.4	0.776	15.0	0.250	35.5	0.077	56.0	0.078	76.5	0.070
-4.5	0.652	4.6	0.755	15.5	0.247	36.0	0.086	56.5	0.074	77.0	0.071
-4.0	0.711	4.8	0.733	16.0	0.239	36.5	0.094	57.0	0.071	77.5	0.071
-3.5	0.766	5.0	0.710	16.5	0.227	37.0	0.100	57.5	0.067	78.0	0.072
-3.0	0.817	5.2	0.687	17.0	0.212	37.5	0.104	58.0	0.063	78.5	0.072
-2.8	0.836	5.4	0.663	17.5	0.193	38.0	0.107	58.5	0.058	79.0	0.072
-2.6	0.855	5.6	0.638	18.0	0.172	38.5	0.108	59.0	0.054	79.5	0.072
-2.4	0.872	5.8	0.613	18.5	0.148	39.0	0.107	59.5	0.050	80.0	0.072
-2.2	0.888	6.0	0.589	19.0	0.123	39.5	0.105	60.0	0.046	80.5	0.072
-2.0	0.904	6.2	0.563	19.5	0.098	40.0	0.102	60.5	0.042	81.0	0.072
-1.8	0.918	6.4	0.538	20.0	0.072	40.5	0.097	61.0	0.038	81.5	0.071
-1.6	0.931	6.6	0.512	20.5	0.048	41.0	0.091	61.5	0.035	82.0	0.071
-1.4	0.943	6.8	0.487	21.0	0.030	41.5	0.084	62.0	0.033	82.5	0.070
-1.2	0.955	7.0	0.461	21.5	0.029	42.0	0.076	62.5	0.031	83.0	0.069
-1.0	0.965	7.2	0.436	22.0	0.044	42.5	0.068	63.0	0.029	83.5	0.068
-0.8	0.974	7.4	0.411	22.5	0.063	43.0	0.058	63.5	0.028	84.0	0.067
-0.6	0.981	7.6	0.386	23.0	0.082	43.5	0.049	64.0	0.028	84.5	0.066
-0.4	0.988	7.8	0.361	23.5	0.099	44.0	0.039	64.5	0.029	85.0	0.065
-0.2	0.993	8.0	0.338	24.0	0.113	44.5	0.030	65.0	0.030	85.5	0.064
0.0	0.997	8.2	0.314	24.5	0.125	45.0	0.021	65.5	0.032	86.0	0.063
0.2	0.999	8.4	0.291	25.0	0.135	45.5	0.015	66.0	0.034	86.5	0.061
0.4	1.000	8.6	0.269	25.5	0.141	46.0	0.015	66.5	0.036	87.0	0.060
0.6	1.000	8.8	0.249	26.0	0.144	46.5	0.021	67.0	0.038	87.5	0.059
0.8	0.998	9.0	0.229	26.5	0.145	47.0	0.029	67.5	0.041	88.0	0.057
1.0	0.995	9.2	0.211	27.0	0.143	47.5	0.037	68.0	0.043	88.5	0.056
1.2	0.991	9.4	0.194	27.5	0.138	48.0	0.045	68.5	0.045	89.0	0.054
1.4	0.986	9.6	0.179	28.0	0.131	48.5	0.052	69.0	0.047	89.5	0.053
1.6	0.980	9.8	0.173	28.5	0.122	49.0	0.059	69.5	0.049	90.0	0.051
1.8	0.972	10.0	0.161	29.0	0.111	49.5	0.065	70.0	0.051		
2.0	0.963	10.2	0.153	29.5	0.098	50.0	0.071	70.5	0.054		
2.2	0.953	10.4	0.147	30.0	0.084	50.5	0.075	71.0	0.056		