

ENGINEERING EXHIBIT
AMENDMENT OF APPLICATION FOR
CONSTRUCTION PERMIT
TELEVISION STATION KAVU-DT
VICTORIA, TEXAS

May 21, 2001

CHANNEL 15 900 KW 311 M

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Engineering Statement

This Engineering Exhibit was prepared on behalf of digital television broadcast station KAVU-DT, Victoria, Texas, in support of an amendment to its pending application for construction permit (See FCC File No. BPCDT-19991021ACQ).

KAVU-DT is paired with analog NTSC TV station KAVU-TV, Channel 25. The instant amendment proposes an adjustment to the proposed operation of the KAVU-DT facility in order to ensure compliance with the FCC DTV de minimis interference protection requirements.* It is now proposed that the KAVU-DT facility operate with a nominal non-directional average effective radiated power (ERP) of 29.5 dBk (900 kW) and an antenna radiation center height above average terrain (HAAT) of 311 m.

As discussed in greater detail below, for the purposes of the required Longley-Rice interference analysis pursuant to FCC OET Bulletin No. 69, a 1-km grid cell resolution was employed.

* See FCC *Public Notice*, "Commission Details Application Filing Procedures Digital Television (DTV)", Released: October 16, 1997; and, FCC *Public Notice*, "Additional Application Processing Guidelines for Digital Television (DTV)", Released: August 10, 1998.

The proposed facility provides minimum 48 dBu, f(50,90), coverage of Victoria in compliance with Section 73.625(a)(1) of the FCC Rules, as recently adopted by the FCC in MM Docket No. 00-39. Figure 1 herein is a tabulation of the calculated distances to the predicted KAVU-DT coverage contours. Figure 2 herein is a map depicting the predicted coverage contours of the proposed facility.

Allocation Considerations

The proposed KAVU-DT Channel 15 facility meets the requirements of Section 73.623 of the FCC Rules concerning predicted interference to other existing U.S. NTSC facilities and U.S. DTV allotments and assignments. Longley-Rice interference analyses were conducted pursuant to the requirements of the FCC Rules; OET Bulletin No. 69; and published FCC guidelines for preparation of such interference analyses. The Longley-Rice interference analyses were conducted using the software developed by du Treil, Lundin & Rackley, Inc. based on the FCC published software routines.[†] Stations selected for analysis were determined pursuant to the distance requirements outlined in the FCC DTV Processing Guidelines Public Notice. Accordingly, co-channel DTV and NTSC stations within 429 km and 407 km, respectively, were examined for potential interference; and first-adjacent DTV and NTSC stations within 229 km and 207 km, respectively, were examined for potential interference. Analog taboo-related NTSC stations within 142 km were examined for potential interference. The results of the interference analyses for the proposed KAVU-DT facility are summarized herein at Figure 3. As indicated therein, the proposed facility will meet the 2%/10% criterion outlined in the FCC Rules and published guidelines with respect to all considered stations.[‡]

[†] The duTreil, Lundin & Rackley, Inc. DTV interference analysis program is a precise implementation of the procedures outlined by the FCC in the Sixth Report and Order; subsequent Memorandum Opinion and Order; and FCC OET Bulletin No. 69. A nominal grid size resolution of 1 km was employed.

[‡] Interference analysis results reflect the net change in interference to a given station considering the interference predicted to occur from all other stations (i.e. "masking") including the allotment facility for

With respect to Class A TV station protection, the proposal has been evaluated according to the requirements of Section 73.623(c)(5) of the FCC Rules. The analysis reveals the following potentially affected Class A TV facility:

KHPZ-LP, Round Rock, Texas, Channel 15 (BPTTL-19981102JD)

The proposed KAVU-DT facility, as amended, maintains or reduces the predicted interfering contour of the proposed facility in all directions. Therefore, because the pending KAVU-DT application is an eligible “maximization” application, pursuant to Section 73.623(c)(5) of the FCC Rules, no further consideration of the above listed Class A television facility is required.

Environmental Considerations

With respect to the potential for human exposure to radio frequency (RF) radiation, calculations prepared in accordance with FCC Bulletin OET-65 (Edition 97-01) indicate that the proposal will not result in human exposure to RF radiation at ground level in excess of FCC standards. Power density calculations were conducted at 2-m above ground[§] based on the following conservative assumptions, with the following results:

Call Sign	Channel	Peak Visual ERP or Average ERP (kW)	Aural ERP (kW)	Relative Field Factor**	FCC Limit ^{††} (mW/cm ²)	Percentage of Limit
KAVU-DT	15	900	--	0.10	0.319	1.0%

KAVU-DT. This properly reflects the net interference change for determining compliance with the FCC DTV2%/10% *de minimis* standard.

§ The radiation center height above ground is 304 m.

** This is a conservative estimate of the relative field factor in the downward direction.

†† for general population/uncontrolled environments

As indicated above, the exposure to RF radiation at 2-m above ground level will not exceed 1.0% of the FCC limit for general population / uncontrolled exposure. Therefore, the proposal complies with the FCC limits for human exposure to RF radiation and it is categorically excluded from environmental processing. The applicant, in coordination with any other users of the transmission facility, shall reduce power or cease operation as necessary to protect persons having access to the KAVU-DT tower or antenna from radio frequency radiation in excess of the FCC guidelines.

Louis Robert du Treil, Jr.

May 21, 2001

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Tabulation of Average Elevations and
 Distances to Predicted Coverage Contours

Azimuth (deg.T)	3-16 km Average Terrain (m)	Antenna HAAT (m)	ERP (kW)	48 dBu f(50,90) Contour (km)	41 dBu f(50,90) Contour (km)
0	39.6	310.4	900	83.3	97.0
45	35.0	315.0	900	83.9	97.5
90	23.7	326.3	900	85.1	98.6
135	22.1	327.9	900	85.3	98.8
180	29.8	320.2	900	84.5	98.1
225	36.6	313.4	900	83.7	97.3
270	54.4	295.6	900	81.6	95.3
315	74.6	275.4	900	79.5	92.3

Note: The 3-16-km average terrain is 39 m based on the eight conventional radials (0°, 45°, 90°, etc.). The overall antenna radiation center height above average terrain is 311 m based on the eight conventional radials.

Figure 2



PREDICTED COVERAGE CONTOURS

TELEVISION STATION KAVU-DT
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du Treil, Lundin & Rackley, Inc. Sarasota, Florida

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Summary of Allocation Analysis

Stations Potentially Affected by Proposed Station							
Facility Number	Channel	Call	City State	Distance (km)	Status	Application Prefix	Application Reference Number
1	14	KETH	HOUSTON TX	176.9	LIC	BLET	19870708KF
2	15	KAMU-TV	COLLEGE STATION TX	212.9	LIC	BLET	329
3	15	KGNS-DT	LAREDO TX	280	APP	BPCDT	19991026ABK
4	15	KGNS-DT	LAREDO TX	280	PLN	DTVPLN	DTVP0186
5	16	KEDT	CORPUS CHRISTI TX	138.7	LIC	BLET	19831214KH
6	16	KHCE-DT	SAN ANTONIO TX	120.2	APP	BPEDT	20000428ACF
7	16	KHCE-DT	SAN ANTONIO TX	172.3	PLN	DTVPLN	DTVP0233
8	19	KVCT	VICTORIA TX	17.8	CP	BPCT	19981202KE
9	19	KVCT	VICTORIA TX	17.9	LIC	BLCT	19840323KG

Stations Potentially Affected by Proposed Station							
Facility Number	Channel	Call	City State	Distance (km)	Status	Application Prefix	Application Reference Number
10	23	KHCE	SAN ANTONIO TX	120.2	CP	BPET	20000622AFS

Summary of Interference Analysis for Worst-Case Scenarios							
Facility Number	Interference Population Before Analysis	Interference Population After Analysis	Baseline Population	Net Change in Interference	Percent of Baseline	Permissible Percent of Baseline	Result
1	--	--	--	--	0.000	--	pass
2	0	2717	135885	2717	1.999	2.0	pass
3	0	2113	140114	2113	1.508	2.0	pass
4	0	1312	140114	1312	0.936	2.0	pass
5	--	--	--	--	0.000	--	pass
6	3988	8449	1362569	4461	0.327	2.0	pass
7	--	--	--	--	0.000	--	pass
8	903	992	117121	89	0.076	2.0	pass
9	850	959	116880	109	0.093	2.0	pass
10	--	--	--	--	0.000	--	pass

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Transmitting Antenna
Manufacturer's Vertical Plane Pattern Data

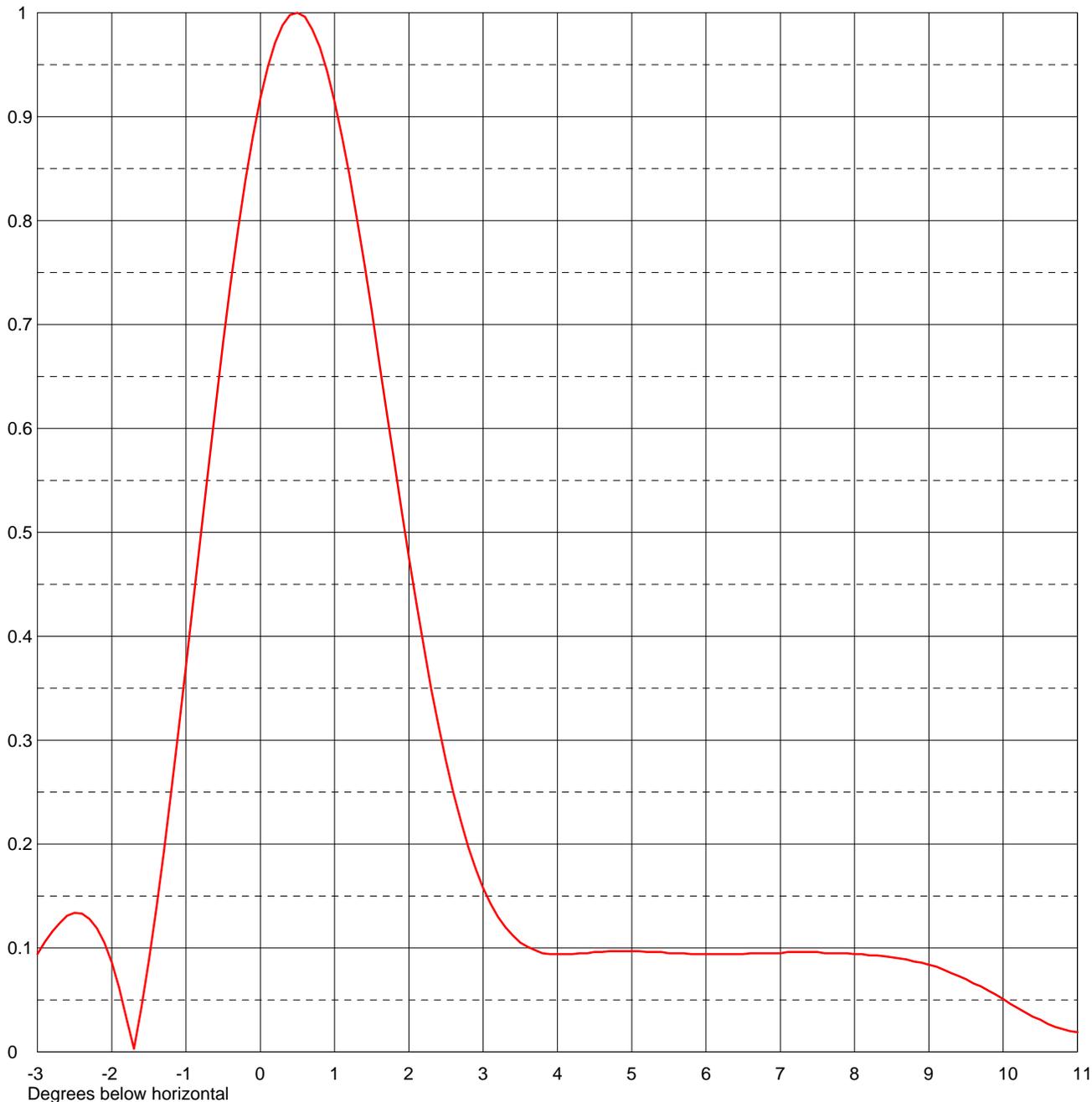
(three pages follow)



Date **21 May 2001**
Call Letters
Location
Customer
Antenna Type **TFU-36GTH-R O4**
Channel **15**

ELEVATION PATTERN

RMS Gain at Main Lobe	30.0 (14.77 dB)	Beam Tilt	0.50 Degrees
RMS Gain at Horizontal	25.3 (14.03 dB)	Frequency	479.00 MHz
Calculated / Measured	Calculated	Drawing #	36G300050



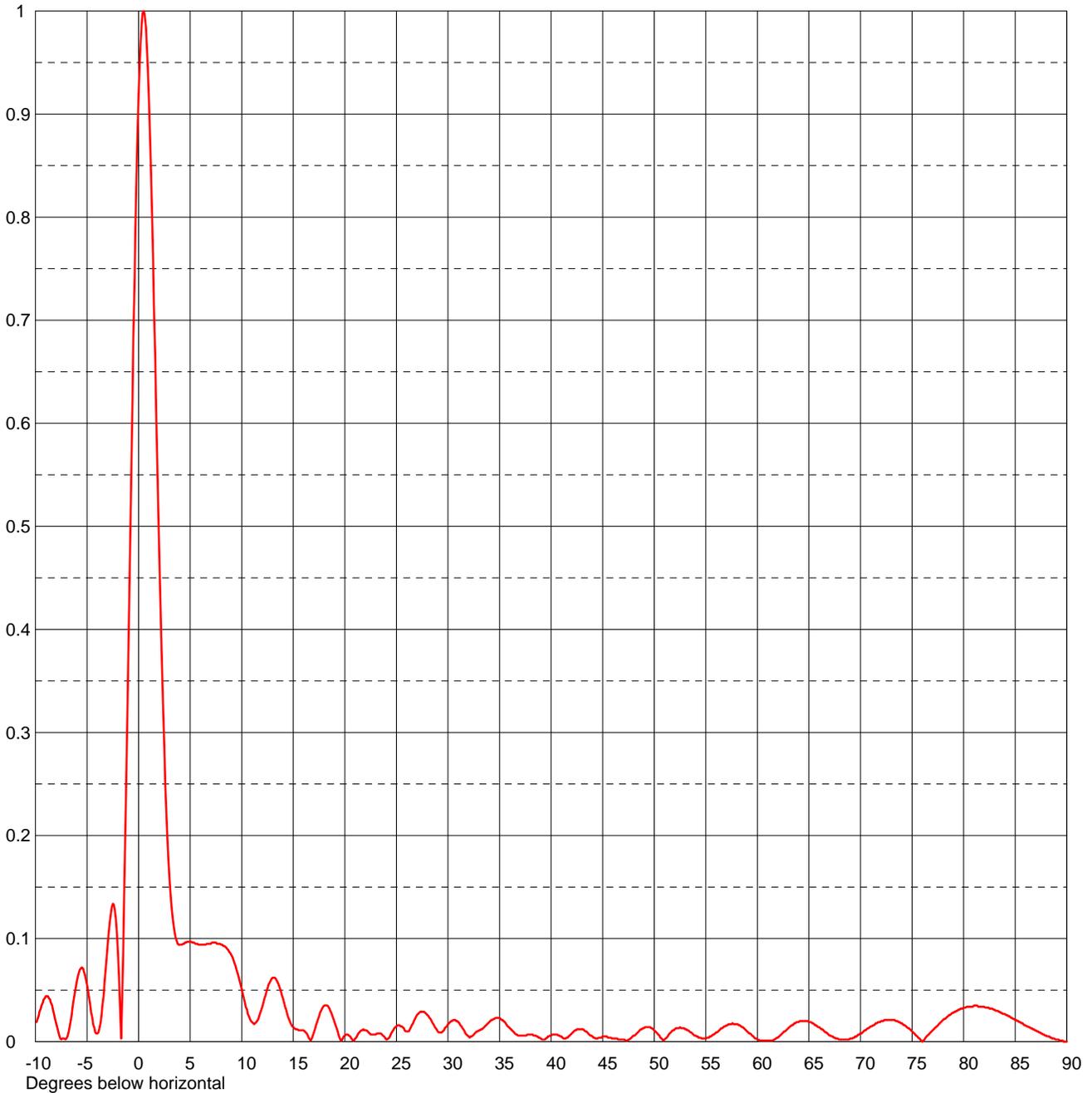
Remarks:



Date **21 May 2001**
Call Letters
Location
Customer
Antenna Type **TFU-36GTH-R 04**
Channel **15**

ELEVATION PATTERN

RMS Gain at Main Lobe	30.0 (14.77 dB)	Beam Tilt	0.50 Degrees
RMS Gain at Horizontal	25.3 (14.03 dB)	Frequency	479.00 MHz
Calculated / Measured	Calculated	Drawing #	36G300050-90



Remarks:



Date **21 May 2001**
 Call Letters Channel **15**
 Location
 Customer
 Antenna Type **TFU-36GTH-R O4**

TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing # **36G300050**

Angle	Field										
-10.0	0.015	2.4	0.314	10.6	0.027	30.5	0.021	51.0	0.002	71.5	0.018
-9.5	0.032	2.6	0.249	10.8	0.022	31.0	0.019	51.5	0.008	72.0	0.020
-9.0	0.044	2.8	0.197	11.0	0.019	31.5	0.012	52.0	0.012	72.5	0.021
-8.5	0.038	3.0	0.158	11.5	0.020	32.0	0.005	52.5	0.014	73.0	0.021
-8.0	0.018	3.2	0.130	12.0	0.034	32.5	0.007	53.0	0.012	73.5	0.020
-7.5	0.002	3.4	0.112	12.5	0.052	33.0	0.011	53.5	0.009	74.0	0.018
-7.0	0.003	3.6	0.101	13.0	0.062	33.5	0.014	54.0	0.006	74.5	0.014
-6.5	0.026	3.8	0.095	13.5	0.057	34.0	0.019	54.5	0.004	75.0	0.010
-6.0	0.058	4.0	0.094	14.0	0.042	34.5	0.022	55.0	0.003	75.5	0.005
-5.5	0.072	4.2	0.094	14.5	0.024	35.0	0.023	55.5	0.005	76.0	0.000
-5.0	0.055	4.4	0.095	15.0	0.014	35.5	0.019	56.0	0.009	76.5	0.006
-4.5	0.023	4.6	0.096	15.5	0.011	36.0	0.013	56.5	0.013	77.0	0.011
-4.0	0.008	4.8	0.097	16.0	0.011	36.5	0.008	57.0	0.016	77.5	0.016
-3.5	0.035	5.0	0.097	16.5	0.004	37.0	0.006	57.5	0.017	78.0	0.021
-3.0	0.094	5.2	0.096	17.0	0.009	37.5	0.006	58.0	0.017	78.5	0.025
-2.8	0.116	5.4	0.096	17.5	0.025	38.0	0.007	58.5	0.014	79.0	0.028
-2.6	0.131	5.6	0.095	18.0	0.035	38.5	0.006	59.0	0.010	79.5	0.031
-2.4	0.133	5.8	0.094	18.5	0.032	39.0	0.003	59.5	0.006	80.0	0.033
-2.2	0.119	6.0	0.094	19.0	0.019	39.5	0.003	60.0	0.002	80.5	0.034
-2.0	0.086	6.2	0.094	19.5	0.004	40.0	0.006	60.5	0.001	81.0	0.035
-1.8	0.032	6.4	0.094	20.0	0.006	40.5	0.007	61.0	0.001	81.5	0.034
-1.6	0.043	6.6	0.095	20.5	0.005	41.0	0.005	61.5	0.001	82.0	0.034
-1.4	0.138	6.8	0.095	21.0	0.003	41.5	0.004	62.0	0.004	82.5	0.032
-1.2	0.249	7.0	0.095	21.5	0.010	42.0	0.008	62.5	0.009	83.0	0.031
-1.0	0.371	7.2	0.096	22.0	0.011	42.5	0.012	63.0	0.013	83.5	0.029
-0.8	0.498	7.4	0.096	22.5	0.007	43.0	0.012	63.5	0.017	84.0	0.027
-0.6	0.623	7.6	0.095	23.0	0.007	43.5	0.009	64.0	0.019	84.5	0.024
-0.4	0.739	7.8	0.095	23.5	0.008	44.0	0.005	64.5	0.020	85.0	0.021
-0.2	0.839	8.0	0.094	24.0	0.002	44.5	0.003	65.0	0.019	85.5	0.019
0.0	0.918	8.2	0.093	24.5	0.008	45.0	0.005	65.5	0.017	86.0	0.016
0.2	0.971	8.4	0.092	25.0	0.015	45.5	0.004	66.0	0.014	86.5	0.013
0.4	0.998	8.6	0.090	25.5	0.015	46.0	0.003	66.5	0.010	87.0	0.011
0.6	0.996	8.8	0.087	26.0	0.010	46.5	0.002	67.0	0.006	87.5	0.008
0.8	0.967	9.0	0.084	26.5	0.016	47.0	0.002	67.5	0.004	88.0	0.006
1.0	0.915	9.2	0.079	27.0	0.026	47.5	0.002	68.0	0.002	88.5	0.004
1.2	0.844	9.4	0.073	27.5	0.029	48.0	0.006	68.5	0.002	89.0	0.002
1.4	0.759	9.6	0.066	28.0	0.026	48.5	0.010	69.0	0.003	89.5	0.001
1.6	0.665	9.8	0.059	28.5	0.018	49.0	0.013	69.5	0.005	90.0	0.000
1.8	0.570	10.0	0.051	29.0	0.010	49.5	0.014	70.0	0.008		
2.0	0.476	10.2	0.042	29.5	0.010	50.0	0.011	70.5	0.011		
2.2	0.390	10.4	0.034	30.0	0.017	50.5	0.006	71.0	0.015		

Remarks: