

TECHNICAL EXHIBIT
APPLICATION FOR CONSTRUCTION PERMIT
DIGITAL COMPANION CHANNEL APPLICATION
LPTV STATION W63BF
FACILITY ID 3002
AGUADA, PUERTO RICO
CH 49 1 KW (MAX-DA)

Technical Narrative

The technical exhibit of which this narrative is part was prepared in response to the FCC Public Notice (Public Notice) dated August 31, 2006 and entitled “LPTV and TV Translator Digital Companion Channel Applications Non-Mutually Exclusive Proposals (Auction No. 85)” (DA 06-1748). Specifically, this technical exhibit was prepared in support of a complete FCC Form 346 as required by the Public Notice for W63BF’s proposed digital companion channel operation on channel 49 at Aguada, Puerto Rico (FCC File No. BSFDTL-20060630CEU, Facility ID 168241). It is proposed to operate on digital channel 49 using a Scala composite directional antenna. The maximum ERP will be 1.0 kW and the antenna radiation center height above mean sea level will be 363 meters. The transmitter will employ a “stringent” out-of-channel emission mask to control adjacent channel interference.

Figure 1 depicts the 74 dBu for the licensed analog and herein proposed 51 dBu contours for LPTV Station W63BF. As indicated, the proposed 51 dBu contour overlaps the licensed 74 dBu contour. Thus, the proposal complies with the FCC requirement that there be contour overlap between the current analog and proposed digital operations.

Response to Paragraph 5 – Antenna Registration

The antenna will be mounted at the 32-meter level on an existing tower having an overall height above ground level of 35 meters; the existing supporting structure does not require registration.

Response to Paragraph 13 – Interference

A study has been conducted using the provisions of Section 74.793 and the OET Bulletin 69 interference model.¹ The study based on the OET-69 Bulletin demonstrates that the proposed LPTV Station W63BF operation complies with the FCC's NTSC, DTV, LPTV/TV translator and Class A interference criteria.

Quiet Zone Notification

As required by FCC rules pertaining to radio Quiet Zones, Section 73.1030(a), the National Astronomy and Ionosphere Center, located at Arecibo, Puerto Rico was notified of this application on October 20, 2006. Copy of the notification letter is included herein as Appendix 1.

FCC Monitoring Stations

The FCC rules pertaining to FCC monitoring stations, Section 73.1030(c), requires that any proposed station facility do not produce a field strength greater than 10 mV/m at the FCC stations. The closest FCC monitoring station to the proposed W63BF facility is located at Santa Isabel, Puerto Rico, at a distance of 91.1 kilometers on a bearing of 113° true. The calculated field strength of the proposed W63BF facility at the Santa Isabel FCC station is well below 0.36 mV/m (51 dBu).

¹ The du Treil, Lundin & Rackley, Inc. DTV interference analysis program is based on the program and 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. An Alpha based processor computer system was employed. The results have been found to be in very close agreement with the results of the FCC implementation of OET Bulletin No. 69

Response to Paragraph 14 – Environmental Protection Act

The proposal is categorically excluded from environmental processing, as an existing tower site is to be employed and the proposal complies with the FCC Rules concerning human exposure to radio frequency (RF) energy. Based on Section 73.1310 of the FCC Rules, the pertinent maximum permissible exposure (MPE) limit for W63BF is as follows:

Call Sign	Frequency (MHz)	MPE for General Population / Uncontrolled (GP/U) Exposure (uW/cm ²)	MPE for Occupational / Controlled (O/C) Exposure (uW/cm ²)
W63BF	683	455.3	2276.7

There are other contributors of RF energy close to the proposed facility. Based on Section 1.1307(b), those facilities that do not produce RF energy levels in excess of 5.0% of the applicable exposure limit at an accessible location are not considered significant contributors of the RF exposure levels in a multiple user environment.

The proposed antenna characteristics are shown in the Appendix 2. The calculation of RF energy at 2-m above ground was made under the procedures of OET Bulletin No. 65.² The formula employed is as follows:

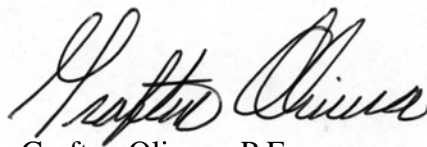
$$S = \frac{(33.4)F^2P}{R^2}$$

where, S = power density in uW/cm², F = relative field factor at the angle to the calculation point, P = the total effective radiated power relative to a dipole in watts, and R = distance from the antenna radiation center to the calculation point in meters.

² Federal Communications Commission OET Bulletin No. 65, Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields (Edition 97-01, August 1997).

Calculations were conducted over a high-resolution grid of over 8,300 points that encompassed an area within ± 500 meters of the proposed W63BF transmitter site. A high-resolution USGS 1-second terrain database was employed and the W63BF transmitting antenna azimuth pattern and elevation pattern, as well as the topographic features of the surrounding terrain, were considered in the calculations. Based on an antenna radiation center height above ground of 32 m and an average radiated power of 1kW, the calculations indicate that the RF field level from the proposed digital operation of W63BF will not exceed 0.82 uW/cm^2 at any location 2-m above the ground. Thus, the calculated RF exposure at 2-m above ground will not exceed 0.18 % of the limit of 455.3 uW/cm^2 (for Channel 49) for the general population and uncontrolled environments.

A locked fence around the tower with appropriate RF exposure warning signs will be provided to prevent unauthorized access to the antenna. This should prevent public access to locations where radiation levels above the maximum permissible level for an uncontrolled/public environment is predicted. As this is a multi-user site, an agreement will be in effect in the event that workers or other authorized personnel enter the restricted area or climb the tower to ensure that appropriate measures will be taken to assure worker safety with respect to radio frequency radiation exposure. Such measures include wearing "accepted" RFR protective clothing and/or RFR exposure monitors or scheduling work when the stations are at reduced power or shut down.

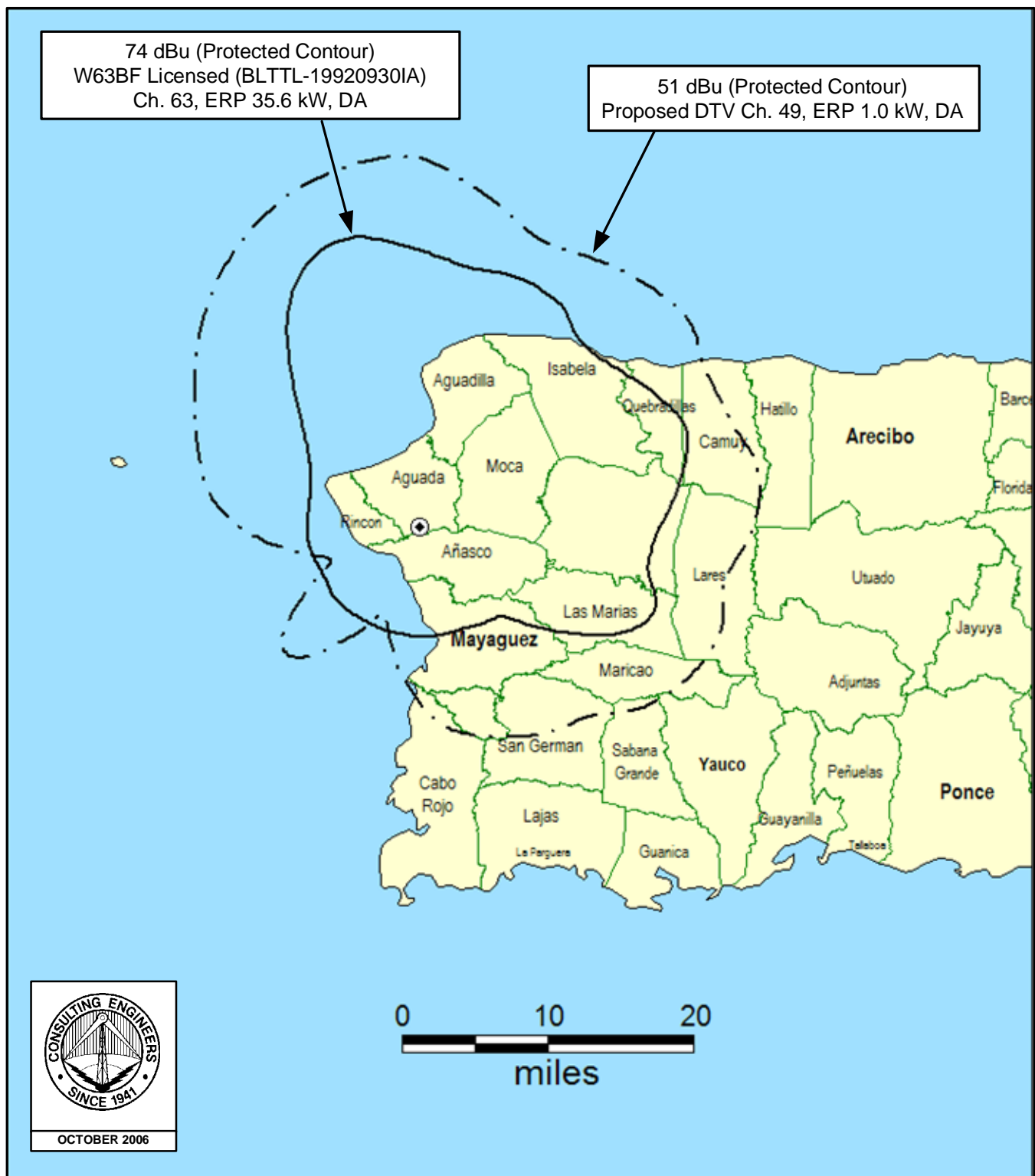


Grafton Olivera, P.E.
du Treil, Lundin & Rackley, Inc.
201 Fletcher Avenue
Sarasota, Florida 34237-6019

(941) 329-6000

October 23, 2006

Figure 1



FCC PREDICTED COVERAGE CONTOURS

LPTV STATION W63BF
AGUADA, PUERTO RICO
DTV COMPANION CH 49
1.0 KW (MAX. DA) 363 M AMSL
du Treil, Lundin & Rackley, Inc. Sarasota, Florida

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Notification to the National Astronomy and Ionosphere Center

{one sheet follows}



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Sarasota, FL 34237-6019
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941-329-6031 FAX

Grafton Olivera
Direct Dial 941-329-6001
e-mail: grafton@dlr.com

October 20, 2006

Via Telefax 787-878-1861

Dr. Sixto A. Gonzalez, Director
Mr. William Genter, Acting Spectrum Manager
National Astronomy and Ionosphere Center
Arecibo Observatory
HC3 Box 53995
Arecibo, PR 00612

Gentlemen:

On behalf of our client, Asociación Evangélica Cristo Viene, Inc., licensee of TV Translator Station W63BF, Aguada, Puerto Rico, in accordance with Section 73.1030 of the FCC Rules, we are hereby notifying you of an application for construction permit for a digital companion channel for W63BF. The particulars of the proposal are as follows:

Proposed Facility

Geographical coordinates of antenna location (NAD83): 18-19-23.8 / 67-10-11.7
Antenna height (radiation center): 32 m AGL; 363 m AMSL
Max Antenna Gain: 8.9 dBd
Main Lobe Orientation: 45° True
Proposed DTV Channel: 49 (680-686 MHz)
Type of emission: 600D7W
Max. Effective isotropic radiated power (horizontal polarization): 1.64 kW

Please review this proposal and let us know your findings. Please feel free to communicate via email (<mailto:grafton@dlr.com>), telefax (941-329-6030) or regular mail.

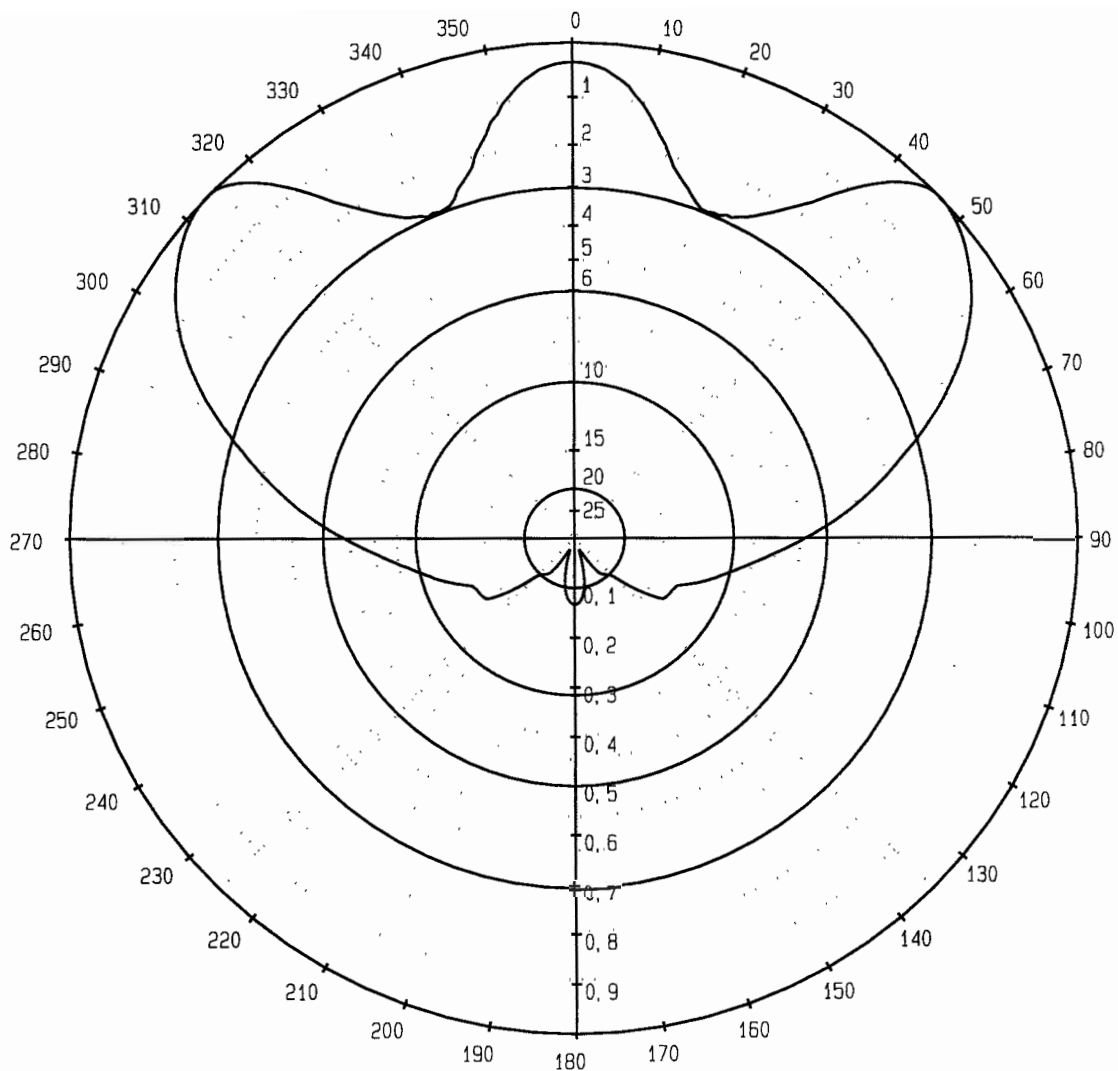
Very truly yours,

Grafton Olivera, P.E.

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Manufacturer's Horizontal and Vertical Plane Pattern Data

{four sheets follow}



frequency in MHz 681.250
down-tilt in ° .0
max / mean in dB 4.47

1x2_K723147_Broadband_UHF-TV_Panel Array

S C A L A Medford Oregon	channel 49	Typ Nr.
		Bl.:

simulation with typical exactness of +/- 8% of max signal

Azimuth Radiation Pattern in % and dB at downtilt: .0

f = 681.250MHz

azimuth	%	dB	azimuth	%	dB
0	96.1	-.3	180	13.3	-17.5
5	93.8	-.6	185	12.6	-18.0
10	87.1	-1.2	190	10.6	-19.5
15	77.5	-2.2	195	6.9	-23.3
20	71.9	-2.9	200	2.8	-30.9
25	71.9	-2.9	205	3.0	-30.5
30	75.5	-2.4	210	5.4	-25.4
35	82.7	-1.7	215	8.5	-21.4
40	93.3	-.6	220	9.5	-20.4
45	99.7	.0	225	10.9	-19.3
50	99.2	-.1	230	16.1	-15.9
55	95.7	-.4	235	21.3	-13.5
60	90.8	-.8	240	21.9	-13.2
65	84.3	-1.5	245	22.6	-12.9
70	76.6	-2.3	250	26.1	-11.7
75	68.2	-3.3	255	29.7	-10.5
80	60.7	-4.3	260	33.8	-9.4
85	53.3	-5.5	265	39.2	-8.1
90	45.8	-6.8	270	45.8	-6.8
95	39.2	-8.1	275	53.3	-5.5
100	33.9	-9.4	280	60.7	-4.3
105	29.7	-10.5	285	68.2	-3.3
110	26.2	-11.6	290	76.5	-2.3
115	22.6	-12.9	295	84.3	-1.5
120	21.9	-13.2	300	90.8	-.8
125	21.3	-13.4	305	95.7	-.4
130	16.0	-15.9	310	99.2	-.1
135	10.9	-19.3	315	99.7	.0
140	9.5	-20.4	320	93.3	-.6
145	8.5	-21.4	325	82.7	-1.6
150	5.3	-25.5	330	75.4	-2.5
155	3.0	-30.5	335	71.7	-2.9
160	2.8	-30.9	340	71.5	-2.9
165	6.9	-23.2	345	77.5	-2.2
170	10.6	-19.5	350	86.8	-1.2
175	12.6	-18.0	355	93.8	-.6
180	13.3	-17.5	360	96.1	-.3

maximum fieldstrength was found at:

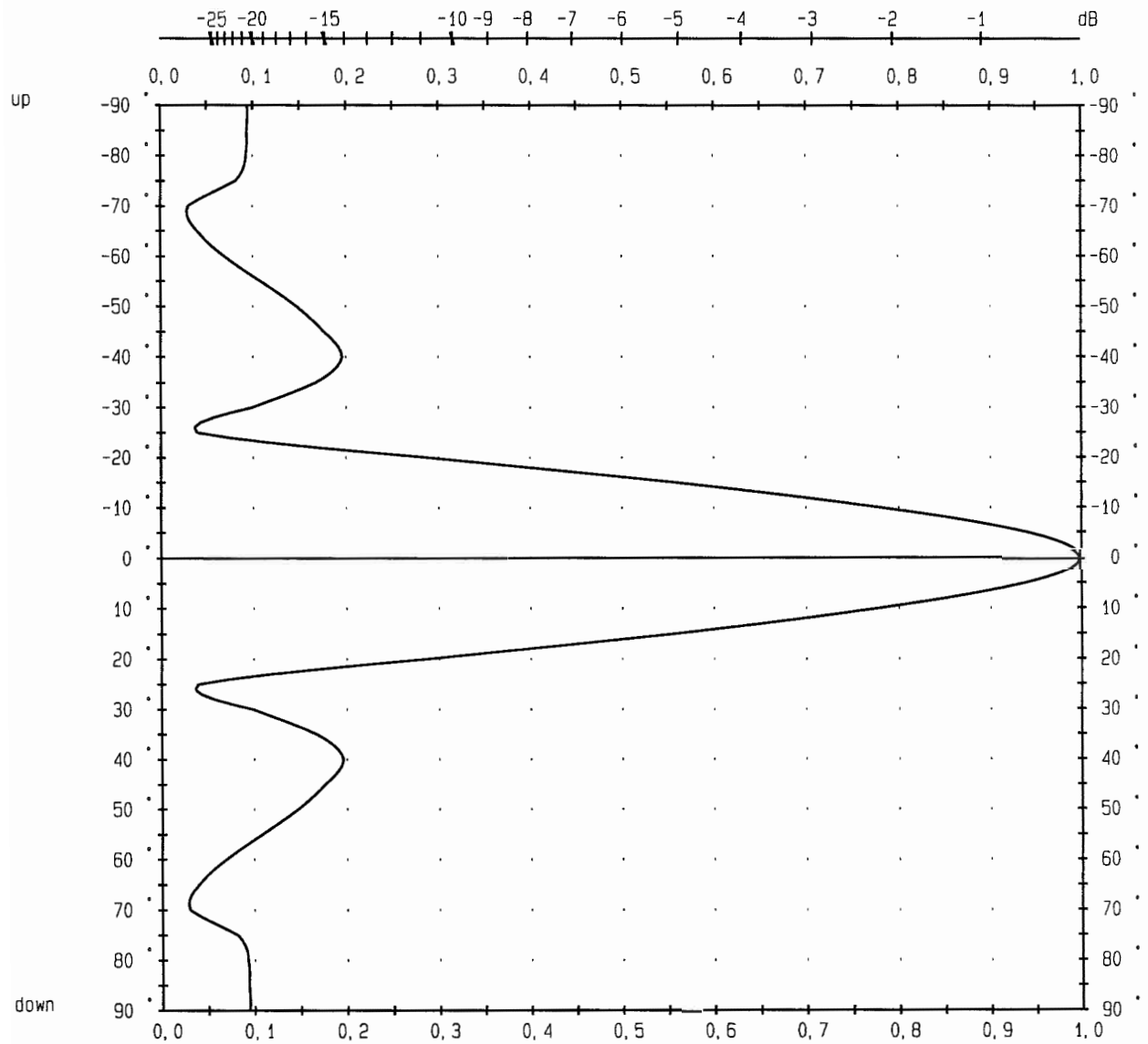
azimuth 47.

downtilt 0.

1x2_K723147_Broadband_UHF-TV_Panel Array

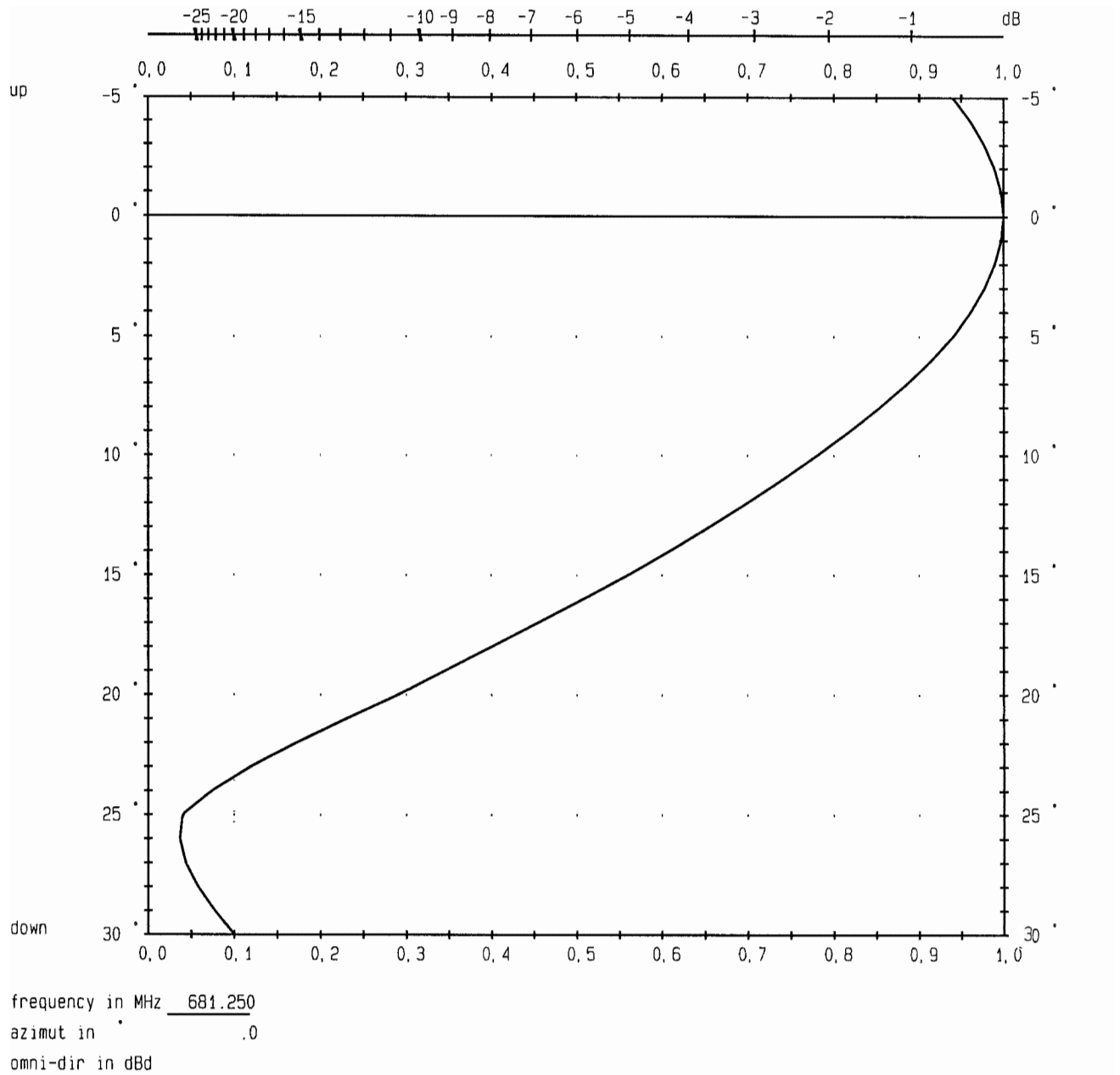
S C A L A Medford Oregon	channel 49	Typ Nr.
		Bl.

mj 19.10.** 8:56



1x2_K723147_Broadband_UHF-TV_Panel Array

SCALA Medford Oregon	_____ channel 49	Typ Nr.
mj 19.10.** 8:55		B1.:



1x2_K723147_Broadband_UHF-TV_Panel Array

S C A L A Medford Oregon	channel 49	Typ Nr.
		B1.: