

**AUCTION 83 LONG FORM APPLICATION  
FACILITY ID #158245  
BNPFT-20030317MSK**

This long form application requests a change in site and HAAT. Both qualify as minor changes. The proposed site is not within 39 km of any Appendix A market or located in any of the top 50 ARB metro markets. Therefore, no LPFM preclusion study is required. The translator will serve as a fill in for station WDSN's (facility ID#53580) HD2 service.

**Allocation discussion:**

All exhibits were developed utilizing the FCC 30 second terrain database.

Allocation exhibits are provided as follows:

- E1 Channel study
- E2 60 dBus
- E3 ASR
- E4 TFC2K vertical elevation pattern

A channel study is included as E1 demonstrating compliance with 74.1204. A plot of the proposed and short form 60 dBu contours is provided as E2 showing that they overlap and that the proposed 60 dBu is entirely contained within the WDSN(FM) 60 dBu.

**RF Exposure Calculation:**

The RF contribution of the proposed translator was calculated using an F factor of 0.325 at 45 degrees of depression for the Bext TFC2K two bay, half wave spaced antenna, and the formula provided below to be 0.766  $\mu\text{Watts}/\text{cm}^2$  or 0.4% of the maximum permissible 200  $\mu\text{Watts}/\text{cm}^2$  exposure for general population/uncontrolled exposure. This is well below the 5% threshold requiring consideration.

$$S \text{ (RF in } \mu\text{Watts}/\text{cm}^2) = \frac{33.4 (F^2 - \text{Vert Factor}) \times (\text{H ERP} + \text{V ERP in Watts})}{R^2 \text{ (distance to radiation center in meters} - 2 \text{ m)}}$$

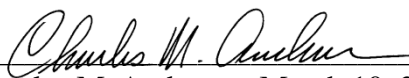
It is concluded that the proposed facility complies with Commission RF radiation limits.

**60 dBu contour and HAAT:**

N. Latitude = 41-06-11    W. Longitude = 78-45-38  
HAAT and Distance to Contour,  
FCC, FM 2-10 Mi, 51 points Method - FCC 30 SEC

Azi.	AV EL	HAAT	dBk	60-F5
000	502.9	40.1	-6.02	8.18
030	536.3	6.7	-6.02	7.09
060	451.7	91.3	-6.02	12.31
090	524.4	18.6	-6.02	7.09
120	531.6	11.4	-6.02	7.09
150	562.4	-19.4	-6.02	7.09
180	521.2	21.8	-6.02	7.09
210	432.7	110.3	-6.02	13.50
240	483.1	59.9	-6.02	10.17
270	468.5	74.5	-6.02	11.20
300	494.3	48.7	-6.02	9.13
330	499.8	43.2	-6.02	8.53

Ave El= 500.74 M    HAAT= 42.26 M    AMSL= 543.0

  
Charles M. Anderson, March 10, 2013

# E1 CHANNEL STUDY

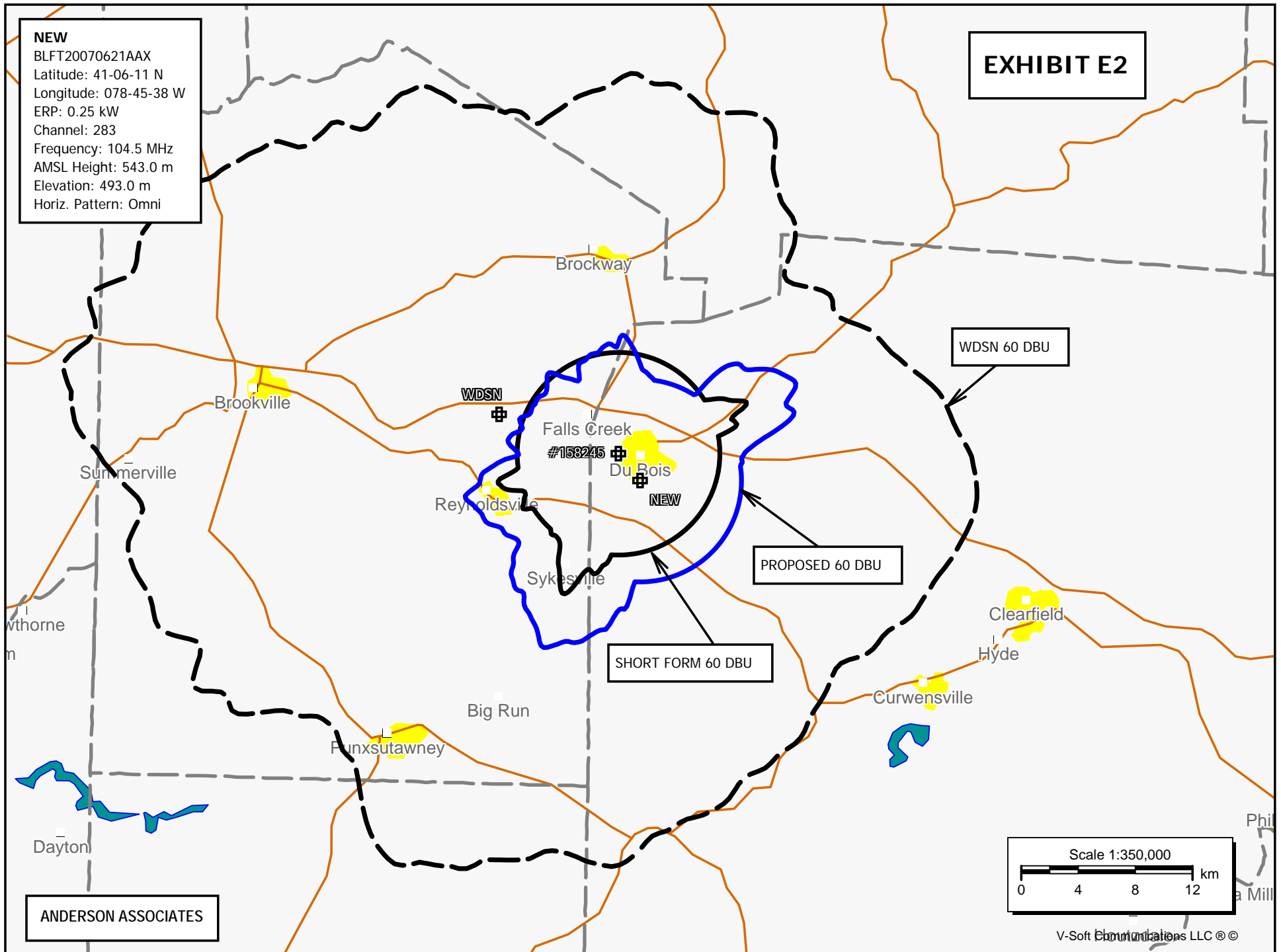
<div> <div>REFERENCE</div> <div>CH# 283D - 104.5 MHz, Pwr= 0.25 kW, HAAT= 42.1 M, COR= 543 M</div> <div>41 06 11.0 N.</div> <div>Average Protected F(50-50)= 8.4 km</div> <div>78 45 38.0 W.</div> <div>Omni-directional</div> <div> <div>DISPLAY DATES</div> <div>DATA 03-10-13</div> <div>SEARCH 03-10-13</div> </div> </div>											
CH CITY	CALL	TYPE ANT STATE	AZI <--	DI ST FILE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*	
283D Du Bois	651846	APP _C_ PA	321.3 141.2	2.41 BNPFT20030317MSK	41 07 12.0 78 46 43.0	0.250 5	23.8 504	7.1 Priority Communications, I	-31.0*	-36.8*	
283B Well sboro	WNBT-FM	LIC _CN PA	58.3 239.2	136.16 BLH6205	41 44 17.0 77 21 50.0	50.000 116	125.7 639	51.0 Farm & Home Broadcasting C	-2.3	18.9	
281A Punxsutawney	WPXZ-FM	LIC _CN PA	232.0 51.8	25.76 BMLH19980403KF	40 57 36.0 79 00 08.0	3.000 90	2.4 559	23.8 Renda Radio Inc.	11.6	0.9	
284D Clearfi el d	W284AK	LIC _CN PA	106.9 287.1	28.48 BLFT19981208TI	41 01 42.0 78 26 08.0	0.050 -97	6.7 396	4.7 The Pennsylvani a State Uni	14.3	13.6	
230B1 St. Marys	WKBI -FM«	LIC NCN PA	10.3 190.3	31.98 BLH19960925KE	41 23 11.0 78 41 32.0	2.350 244	0.0 787	0.0 Laurel Media, Inc.	12.0R	20.5M	
280A Kane	WBYB	LIC NCX PA	356.4 176.4	57.30 BLH20071213AAT	41 37 03.0 78 48 13.0	0.840 223	1.8 787	27.9 Coloni al Radi o Group, Inc.	45.2	28.1	
285A Holl idaysburg	WRKY-FM	LIC _CN PA	155.7 335.9	65.34 BLH19980702KC	40 34 01.0 78 26 32.0	0.730 276	1.7 802	26.7 Forever Of Pa, LI c	55.5	36.8	
284B Pittsburgh	WPGB	LIC NCN PA	236.4 55.6	125.34 BLH20010723AAM	40 28 20.0 79 59 41.0	13.000 252	74.4 567	62.6 Capstar Tx LI c	38.9	37.6	
282A Clarendon	WKNB	LIC _CN PA	336.9 156.6	86.00 BLH19970112KA	41 48 50.0 79 10 04.0	4.700 113	38.1 617	24.9 Radio Partners, LI c	38.2	42.7	
280A Bell wood	WALY	LIC _CN PA	155.7 335.9	65.34 BLH19981229KC	40 34 01.0 78 26 32.0	0.380 280	1.4 806	23.1 Forever Broadcasting, LI c	55.8	40.4	
286A Sheffi el d	NEW	CP ZCX PA	340.5 160.3	80.46 BNPH20120529AAD	41 47 05.0 79 05 06.0	6.000 79	3.2 593	32.0 Radio Partners, LI c	67.3	45.9	
283A Cambridge Spri ngs	WXMJ	LIC NCN PA	300.1 119.2	134.76 BLH19970728KD	41 42 10.0 80 09 54.0	2.550 156	78.0 545	25.9 Forever Broadcasting, LI c	46.9	77.9	

Terrain database is FCC NGDC 30 Sec , R= 73.215 qualifying spacings or FCC minimum Spacings in KM, M= Margin in KM  
 In & Out distances between contours are shown at closest points. Reference zone= East Zone, Co to 3rd adjacent.  
 All separation margins (if shown) include rounding  
 Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, \_= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)  
 "\*"affixed to 'IN' or 'OUT' values = site inside protected contour.  
 « = Station meets FCC minimum distance spacing for its class.

**NEW**

BLFT20070621AAX  
Latitude: 41-06-11 N  
Longitude: 078-45-38 W  
ERP: 0.25 kW  
Channel: 283  
Frequency: 104.5 MHz  
AMSL Height: 543.0 m  
Elevation: 493.0 m  
Horiz. Pattern: Omni

**EXHIBIT E2**



ANDERSON ASSOCIATES

Scale 1:350,000

0 4 8 12 km

V-Soft Communications LLC ©

## E3 Registration 1251299

 [Map Registration](#)

### Registration Detail

Reg Number	1251299	Status	Constructed
File Number	A0488520	Constructed	12/24/2005
EMI	No	Dismantled	
NEPA	No		

### Antenna Structure

Structure Type TOWER - Free standing or Guyed Structure used for Commu

#### Location (in NAD83 Coordinates)

Lat/Long	41-06-11.4 N 078-45-37.2 W	Address	870 South Highland Street
City, State	Dubois , PA		
Zip	15801	County	CLEARFIELD
Center of AM Array		Position of Tower in Array	

### Heights (meters)

Elevation of Site Above Mean Sea Level	Overall Height Above Ground (AGL)
492.6	82.3
Overall Height Above Mean Sea Level	Overall Height Above Ground w/o Appurtenances
574.9	76.2

### Painting and Lightings Specifications

FAA Chapters 4, 8, 12

Paint and Light in Accordance with FAA Circular Number 70/7460-1K

### FAA Notification

FAA Study	2006-aea-38-oe	FAA Issue Date	01/10/2006
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### Owner & Contact Information

FRN	0003188133	Owner Entity Type
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#### Owner

Mobile Communication Service, Inc.  
Attention To: Rob Watson  
16343 Conneaut Lake Road  
P.O. Box 1234  
Meadville , PA 16335

P: (814)724-1234  
F:  
E: rwatson@mobilcom.net

#### Contact

P:  
F:  
E:

### Last Action Status

Status	Constructed	Received	01/13/2006
Purpose	Notification	Entered	01/13/2006
Mode	Interactive		

### Related Applications

# Output from NADCON for station

North American Datum Conversion

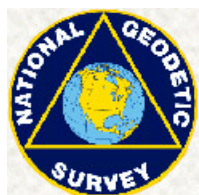
NAD 83 to NAD 27

NADCON Program Version 2.11

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Transformation #: 1                      Region: Conus

	Latitude	Longitude
NAD 27 datum values:	41 06 11.17845	78 45 38.09267
NAD 83 datum values:	41 06 11.40000	78 45 37.20000
NAD 27 - NAD 83 shift values:	-0.22155	0.89267(secs.)
	-6.835	20.830 (meters)
Magnitude of total shift:		21.923(meters)



[NGS HOME PAGE](http://www.ngs.noaa.gov/cgi-bin/nadcon.prl)http://www.ngs.noaa.gov/cgi-bin/nadcon.prl

## EXHIBIT 4 VERTICAL ELEVATION PATTERN

**BEXT, Inc.**

**TFC2K 2 Bay Halfwave**

**TX station:**

**Site name:**

**Frequency: 98.00 MHz**

**Date: 08/08/2007**

### General data of antenna system

TX station	
Site name	
Site longitude (+ddd°pp'ss")	
Site latitude (+dd°pp'ss")	
Ground level a.s.l. (m)	1
Antenna system height a.g.l. (m)	15.0
Transmitter power (Watt)	1.0
Carrier wave frequency (MHz)	98.00
Antenna system central frequency (MHz)	98.00
Filename of antenna base diagrams type 1	TFC2K
Filename of antenna base diagrams type 2	
Antenna system polarization (H, V, C, X)	C
Transmitting cable attenuation (dB)	0.1
Additional attenuations (dB)	0.1
Base diagrams sectors (A = all, F = front)	A
Velocity factor of cables to antennas (0÷1)	0.89
Coordinate system (C = cartesian, P = polar)	C
Mast side/diameter (cm):	0.0
Mast cross section (Triangular, Square, Circular)	S
Mast rotation w.r.t. North (°)	0
System picture filename (*.bmp *.gif *.jpg)	

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### Information about antennas used in the system

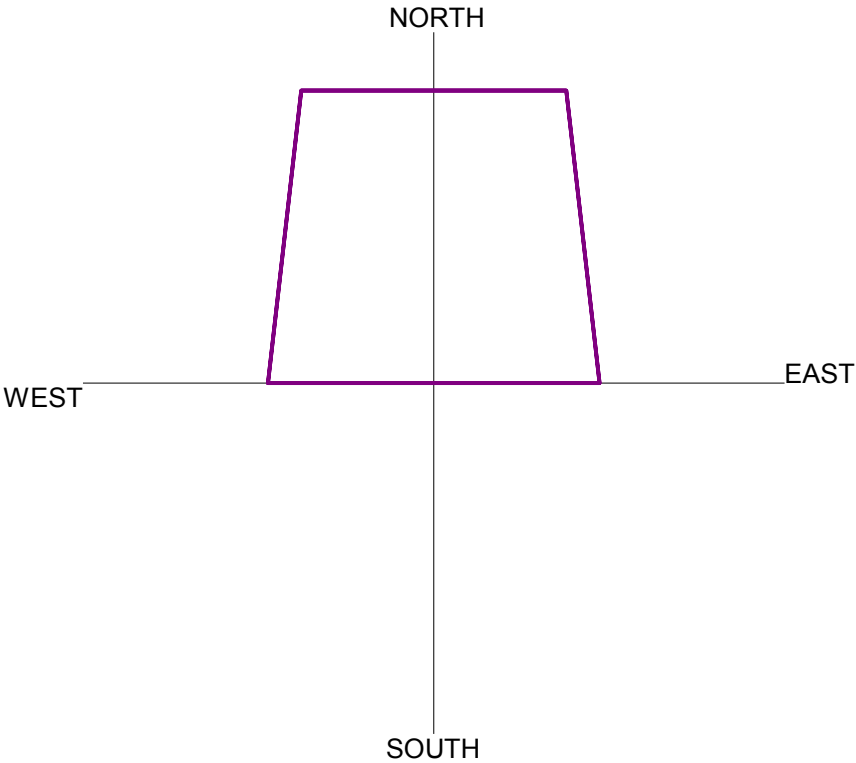
Manufacturer	BEXT, Inc.
Antenna model	TFC2K
Band start (MHz)	87
Band stop (MHz)	108
Diagrams frequency (MHz)	98
Polariz. (H, V, C, X)	C
Vertical dist. (cm)	320
Height (cm)	250
Width (cm)	170
Thickness (cm)	150
Weight (Kg)	80
Maximum power (KW)	4
Gain (dBd)	-1.71
North E.C. (cm)	70
East E.C. (cm)	0
Return loss (dB)	0
R.C. phase (°)	0



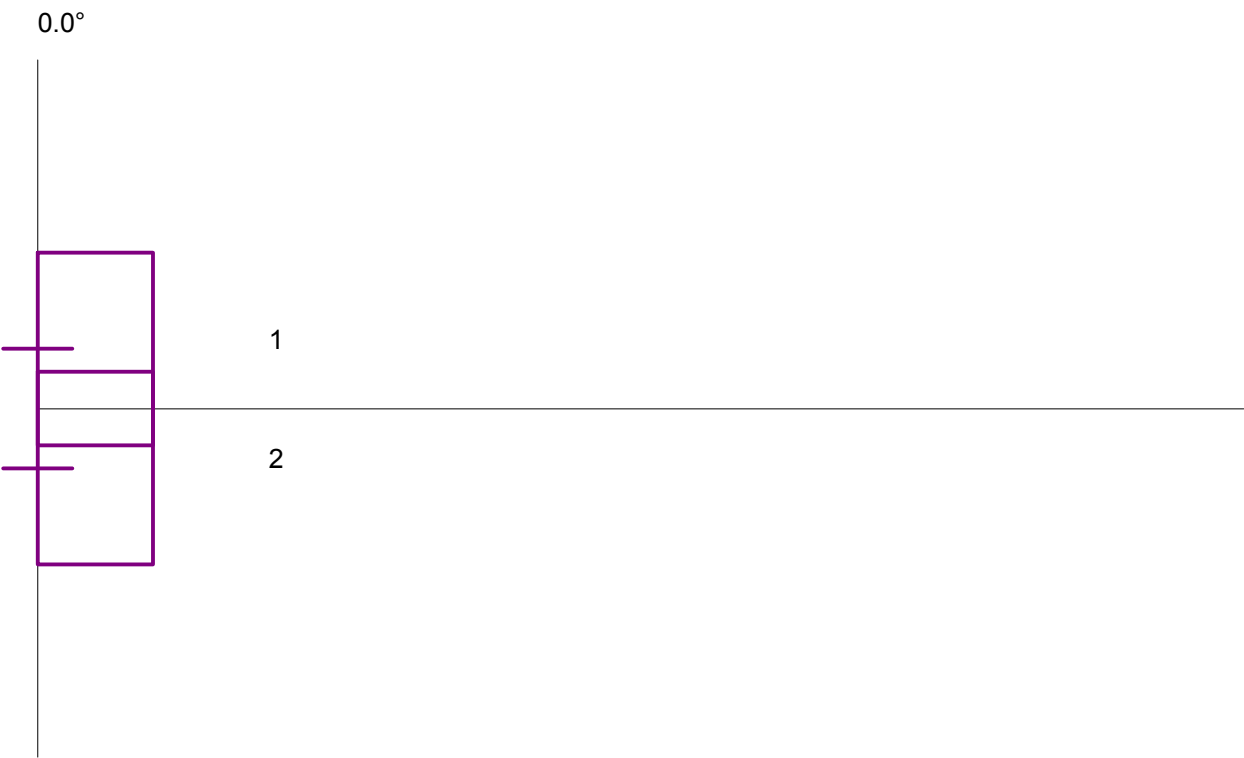
### Geometrical and electrical data of antenna system

	<i>Power</i> (%)	<i>Tilt</i> (°)	<i>Az.</i> (°/N)	<i>Phase</i> (°)	<i>V dist.</i> (m)	<i>E.C.</i> (cm)	<i>N.C.</i> (cm)	<i>Rot.</i> (1÷4)	<i>Type</i> (1÷2)	<i>L cables</i> (cm)	<i>Car. phase</i> (°)	
1	50.0000		0	0	+0.0	0.78	0.0	0.0	1	1	0.0	0.0
2	50.0000		0	0	+0.0	-0.78	0.0	0.0	1	1	0.0	0.0

Plane of antenna system



Side of antenna system



Frequency: 98.00 MHz

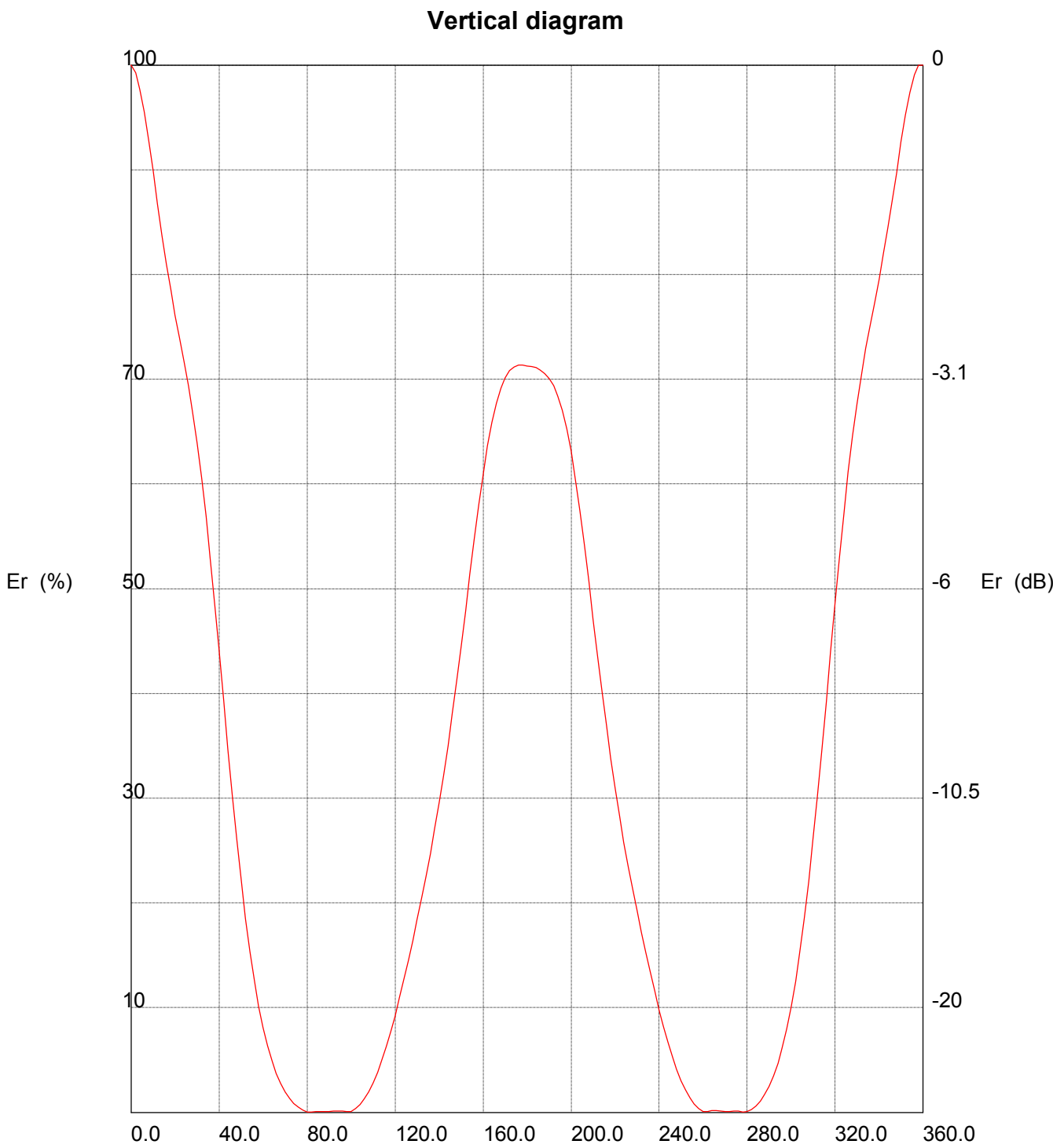
Antennas arrays data

A. Antennas array azimuth (°/N)	0
B. Number of antennas	2
C. Nominal power supply (W)	1.00
D. Losses (addit. + cables) (dB)	0.2
E. Effective power supply (W)	0.95
F. Theor. maximum gain (dBd)	-1.70
G. Distribution losses (dB)	0.00
H. Nominal max gain [F - G] (dBd)	-1.70
I. Compensation losses (dB)	0.00
J. Effec. max gain [H - I] (dBd)	-1.70
K. Effec. max gain (times)	0.68
L. Effec. max power [E * K] (KW)	0.0006
M. Max power depr. angle (°)	-1.0
N. Max power az. angle (°)	66

Diagram in dBK calculated at horizon

Az. (°/N) dBK		Az. (°/N) dBK		Az. (°/N) dBK		Az. (°/N) dBK	
0	-33.5	90	-32.5	180	-36.4	270	-32.5
10	-33.4	100	-33.2	190	-36.4	280	-32.1
20	-33.1	110	-34.1	200	-36.4	290	-32.0
30	-32.8	120	-35.0	210	-36.3	300	-32.0
40	-32.5	130	-35.7	220	-36.1	310	-32.2
50	-32.2	140	-36.2	230	-35.6	320	-32.5
60	-32.0	150	-36.4	240	-34.9	330	-32.9
70	-31.9	160	-36.5	250	-34.1	340	-33.2
80	-32.1	170	-36.4	260	-33.2	350	-33.4

Frequency: 98.00 MHz



Frequency: 98.00 MHz

**Vertical diagram at an azimuth of 0°**

Dep (°)	Er (%)	ERP (W)	Dep (°)	Er (%)	ERP (W)	Dep (°)	Er (%)	ERP (W)
0.0	100.0	0.5	120.0	9.3	0.0	240.0	9.9	0.0
2.0	99.3	0.4	122.0	10.9	0.0	242.0	8.2	0.0
4.0	97.7	0.4	124.0	12.7	0.0	244.0	6.7	0.0
6.0	95.5	0.4	126.0	14.5	0.0	246.0	5.3	0.0
8.0	92.7	0.4	128.0	16.4	0.0	248.0	4.1	0.0
10.0	89.8	0.4	130.0	18.4	0.0	250.0	3.0	0.0
12.0	86.8	0.3	132.0	20.4	0.0	252.0	2.1	0.0
14.0	83.8	0.3	134.0	22.5	0.0	254.0	1.4	0.0
16.0	81.0	0.3	136.0	24.7	0.0	256.0	0.8	0.0
18.0	78.5	0.3	138.0	27.1	0.0	258.0	0.4	0.0
20.0	76.1	0.3	140.0	29.5	0.0	260.0	0.1	0.0
22.0	73.9	0.2	142.0	32.2	0.0	262.0	0.1	0.0
24.0	71.7	0.2	144.0	35.0	0.1	264.0	0.2	0.0
26.0	69.4	0.2	146.0	38.0	0.1	266.0	0.2	0.0
28.0	66.9	0.2	148.0	41.2	0.1	268.0	0.1	0.0
30.0	63.9	0.2	150.0	44.5	0.1	270.0	0.1	0.0
32.0	60.6	0.2	152.0	47.9	0.1	272.0	0.1	0.0
34.0	56.9	0.1	154.0	51.4	0.1	274.0	0.1	0.0
36.0	52.9	0.1	156.0	54.8	0.1	276.0	0.1	0.0
38.0	48.5	0.1	158.0	58.0	0.2	278.0	0.1	0.0
40.0	44.0	0.1	160.0	61.0	0.2	280.0	0.1	0.0
42.0	39.3	0.1	162.0	63.6	0.2	282.0	0.3	0.0
44.0	34.7	0.1	164.0	65.9	0.2	284.0	0.6	0.0
46.0	30.2	0.0	166.0	67.7	0.2	286.0	1.1	0.0
48.0	26.0	0.0	168.0	69.1	0.2	288.0	1.7	0.0
50.0	22.1	0.0	170.0	70.1	0.2	290.0	2.5	0.0
52.0	18.5	0.0	172.0	70.8	0.2	292.0	3.5	0.0
54.0	15.4	0.0	174.0	71.2	0.2	294.0	4.7	0.0
56.0	12.6	0.0	176.0	71.3	0.2	296.0	6.2	0.0
58.0	10.2	0.0	178.0	71.3	0.2	298.0	8.0	0.0
60.0	8.1	0.0	180.0	71.2	0.2	300.0	10.1	0.0
62.0	6.4	0.0	182.0	71.2	0.2	302.0	12.5	0.0
64.0	4.9	0.0	184.0	71.1	0.2	304.0	15.3	0.0
66.0	3.7	0.0	186.0	70.9	0.2	306.0	18.5	0.0
68.0	2.8	0.0	188.0	70.5	0.2	308.0	22.1	0.0
70.0	2.0	0.0	190.0	70.1	0.2	310.0	26.0	0.0
72.0	1.4	0.0	192.0	69.4	0.2	312.0	30.1	0.0
74.0	0.9	0.0	194.0	68.4	0.2	314.0	34.6	0.1
76.0	0.5	0.0	196.0	67.0	0.2	316.0	39.2	0.1
78.0	0.2	0.0	198.0	65.3	0.2	318.0	43.9	0.1
80.0	0.1	0.0	200.0	63.0	0.2	320.0	48.5	0.1
82.0	0.0	0.0	202.0	60.4	0.2	322.0	53.0	0.1
84.0	0.1	0.0	204.0	57.4	0.1	324.0	57.2	0.1
86.0	0.1	0.0	206.0	54.1	0.1	326.0	61.1	0.2
88.0	0.1	0.0	208.0	50.6	0.1	328.0	64.6	0.2
90.0	0.1	0.0	210.0	47.1	0.1	330.0	67.7	0.2
92.0	0.1	0.0	212.0	43.6	0.1	332.0	70.5	0.2
94.0	0.2	0.0	214.0	40.2	0.1	334.0	73.0	0.2
96.0	0.1	0.0	216.0	36.9	0.1	336.0	75.2	0.3
98.0	0.1	0.0	218.0	33.8	0.1	338.0	77.3	0.3
100.0	0.1	0.0	220.0	30.9	0.0	340.0	79.6	0.3
102.0	0.4	0.0	222.0	28.3	0.0	342.0	81.9	0.3
104.0	0.8	0.0	224.0	25.8	0.0	344.0	84.4	0.3
106.0	1.3	0.0	226.0	23.5	0.0	346.0	87.1	0.3
108.0	2.0	0.0	228.0	21.3	0.0	348.0	89.8	0.4
110.0	2.8	0.0	230.0	19.2	0.0	350.0	92.6	0.4
112.0	3.8	0.0	232.0	17.2	0.0	352.0	95.2	0.4
114.0	5.0	0.0	234.0	15.3	0.0	354.0	97.4	0.4
116.0	6.3	0.0	236.0	13.4	0.0	356.0	99.0	0.4
118.0	7.7	0.0	238.0	11.6	0.0	358.0	100.0	0.5