

TECHNICAL EXHIBIT
AMENDMENT OF APPLICATION FOR
CONSTRUCTION PERMIT
TELEVISION STATION WNYS-DT
SYRACUSE, NEW YORK

November 4, 2004

CHANNEL 44 680 KW (MAX-DA) 445 M

TECHNICAL EXHIBIT
AMENDMENT OF APPLICATION FOR CONSTRUCTION PERMIT
TELEVISION STATION WNYS-DT
SYRACUSE, NEW YORK
CHANNEL 44 680 KW (MAX-DA) 445 M

Table of Contents

Technical Statement

Figure 1

Predicted Coverage Contours

Appendix

Transmitting Antenna Manufacturer's Pattern Data

TECHNICAL EXHIBIT
AMENDMENT OF APPLICATION FOR CONSTRUCTION PERMIT
TELEVISION STATION WNYS-DT
SYRACUSE, NEW YORK
CHANNEL 44 680 KW (MAX-DA) 445 M

Technical Statement

This Technical Exhibit was prepared on behalf of digital television broadcast station WNYS-DT, Syracuse, New York, in support of an amendment to its pending application for construction permit (See FCC File No. BPCDT-19991027ADD). The pending application for WNYS-DT specifies operation on Channel 44 with a maximum effective radiated power (ERP) of 1000 kW and an antenna height above average terrain (HAAT) of 445 m.* The purpose of this amendment is to reduce the proposed ERP for WNYS-DT to conform to the maximum permissible power requirements for DTV stations outlined in Section 73.622(f)(8) of the FCC Rules. There is also a minor change in the antenna model number, but there is no change in the proposed transmitting antenna pattern originally specified. Lastly, the transmitter site coordinates longitude is corrected by 1 second to harmonize with the antenna structure registration information.

The proposed facility will not result in any extension of the predicted 41 dBu noise-limited contour relative to the WNYS-DT application facility. Therefore, the proposal meets the terms of the FCC Filing Freeze for television stations.[†]

* The WNYS-DT allotment facility on Channel 44 was specified with a maximum effective radiated power (ERP) of 50 kW and antenna height above average terrain (HAAT) of 445 m.

[†] See August 2004 Filing Freeze PN, DA 04-2446 (MB rel. Aug. 3, 2004).

Proposed Facilities

The proposed transmitting facility will employ a Dielectric, model TFU-30DSC-R C170 antenna, which will be side-mounted on the existing WNYS(TV) tower structure. The transmitter site elevation is 497 m AMSL. The antenna center of radiation will be located at 302 m above ground level and 799 m AMSL. The proposed WNYS-DT facility will operate on Channel 44 with a maximum directional average ERP of 28.3 dBk (680 kW) and antenna radiation center HAAT of 445 m.

The proposed facility provides minimum 48 dBu, f(50,90), coverage of Syracuse in compliance with Section 73.625(a)(1) of the FCC Rules. Figure 1 herein is a map depicting the predicted coverage contours of the proposed facility.

The proposed antenna structure has been registered with the FCC. The FCC antenna structure registration number is 1006348. There will be no change in the overall height of the antenna structure as a result of the instant proposal.

Environmental Considerations

An evaluation was conducted for the proposed facility concerning compliance with Section 1.1307(b) of the FCC Rules regarding human exposure to radio frequency (RF) energy.[‡] 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:

[‡] See FCC Office of Engineering and Technology Bulletin No. 56 for background information on non-ionizing RF energy of the type discussed here. Internet web reference:

http://www.fcc.gov/Bureaus/Engineering_Technology/Documents/bulletins/oet56/oet56e4.pdf

[§] The antenna radiation center height above ground is 302 m.

Call Sign	Channel	Total Average ERP (kW)	Relative Field Factor ^{**}	FCC Limit ^{††} (mW/cm ²)	Percentage of Limit
WNYS-DT	44	680	0.10	0.435	0.6%

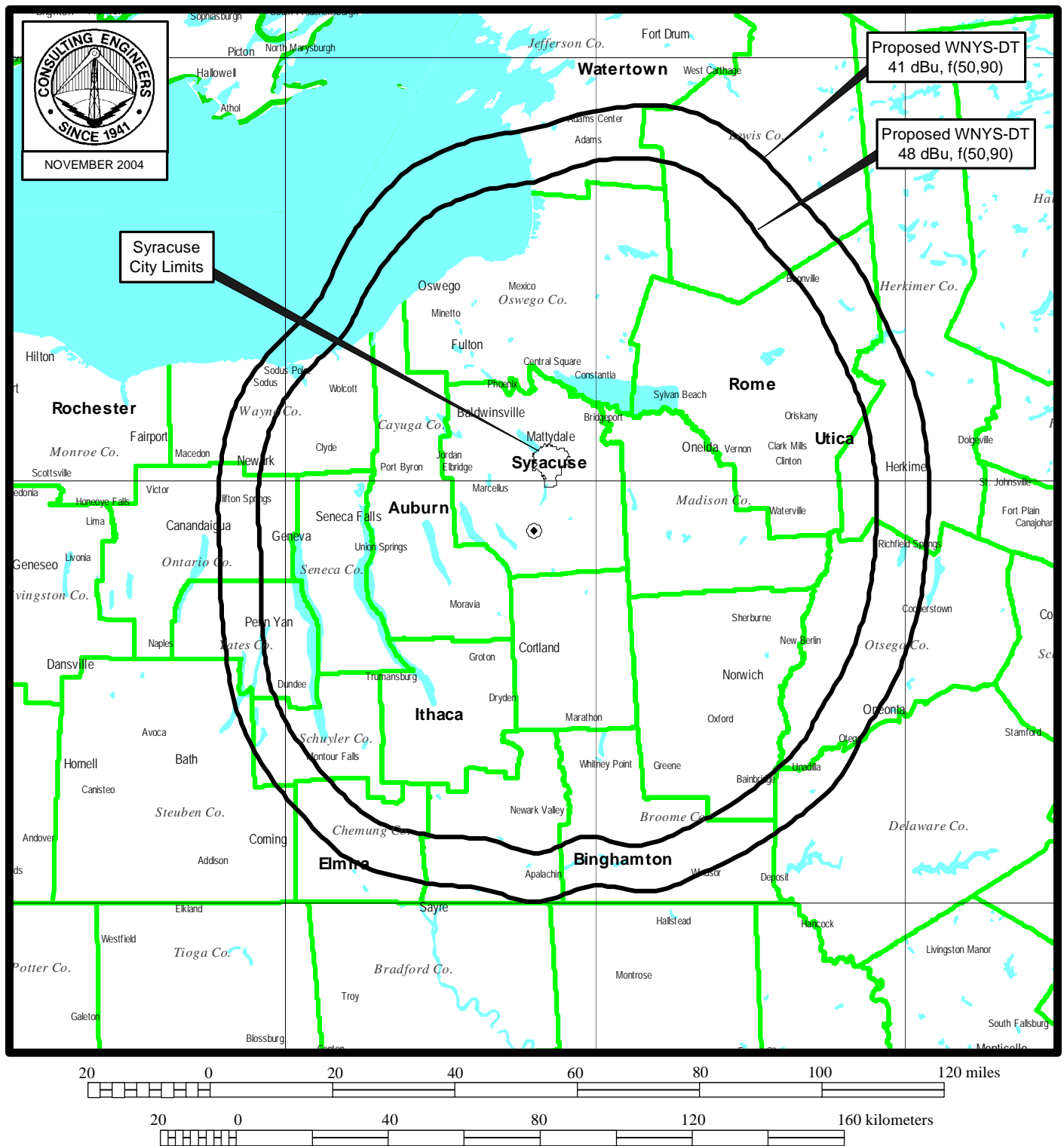
As indicated above, the total exposure to RF radiation at 2-m above ground level will not exceed 0.6% of the FCC limit for general population / uncontrolled exposure. Therefore, the proposal complies with the FCC limits for human exposure to RF energy and it is categorically excluded from environmental processing. The applicant, in coordination with other users of the transmission facility, shall reduce power or cease operation as necessary to protect persons having access to the WNYS tower or antenna from radio frequency radiation in excess of the FCC guidelines.

Louis Robert du Treil, Jr.

du Treil, Lundin & Rackley, Inc.
201 Fletcher Ave.
Sarasota, FL 34237-6019

November 4, 2004

^{**} This is a conservative estimate of the relative field factor in the downward direction.
^{††} for general population/uncontrolled environments



PREDICTED COVERAGE CONTOURS

TELEVISION STATION WNYS-DT
SYRACUSE, NEW YORK
CHANNEL 44 680 KW (MAX-DA) 445 M

du Treil, Lundin & Rackley, Inc. Sarasota, Florida

TECHNICAL EXHIBIT
AMENDMENT OF APPLICATION FOR CONSTRUCTION PERMIT
TELEVISION STATION WNYS-DT
SYRACUSE, NEW YORK
CHANNEL 44 680 KW (MAX-DA) 445 M

Transmitting Antenna
Manufacturer's Pattern Data

(four pages follow)



Exhibit No.

Date

04 Nov 2004

Call Letters

Channel 44

Location

Customer

Antenna Type

TFU-30DSC-R C170

AZIMUTH PATTERN

Gain

1.70 (2.30 dB)

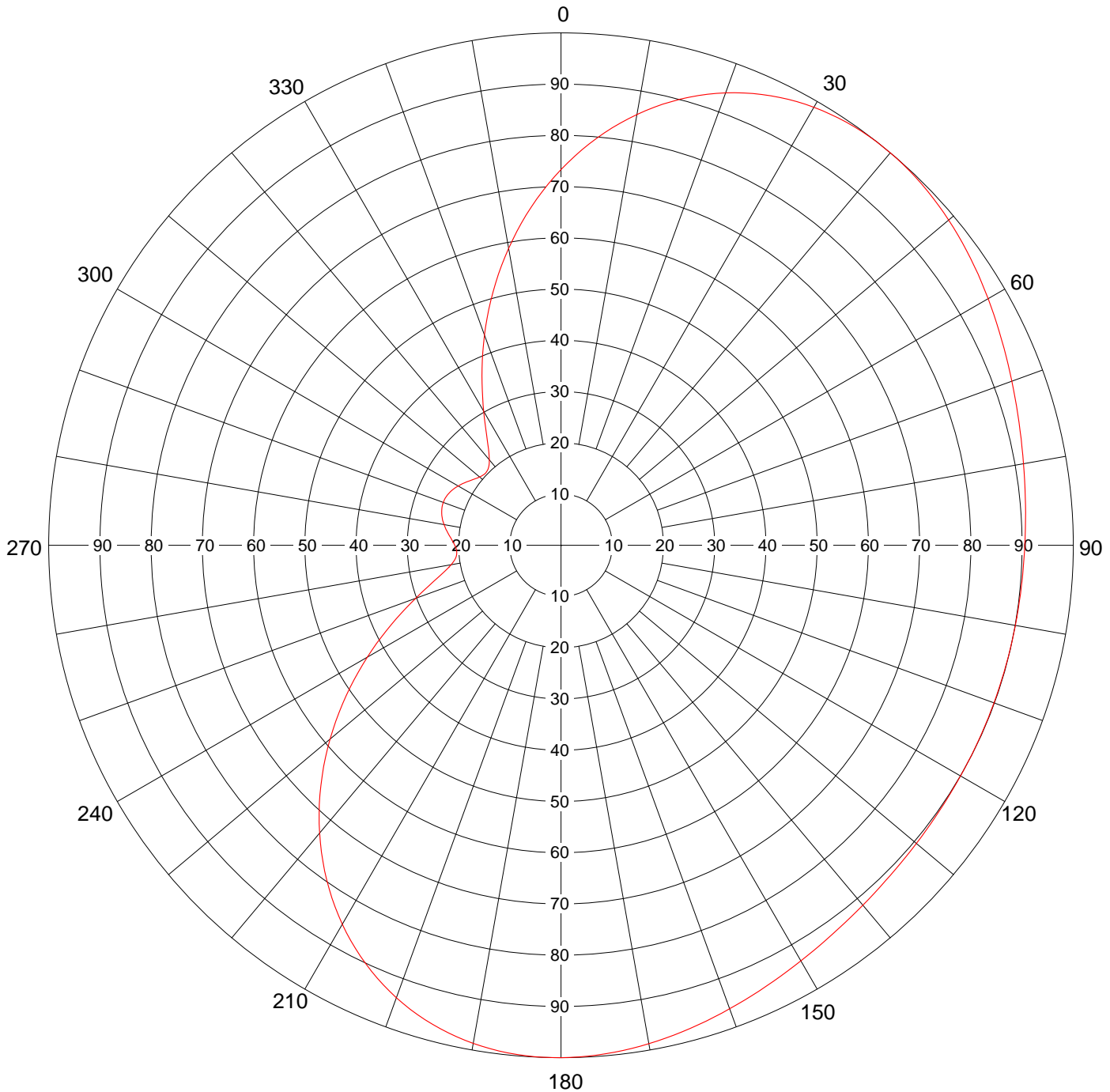
Frequency

653 MHz

Calculated / Measured

Calculated

Drawing #

TFU-C170

Remarks:



Date

04 Nov 2004

Call Letters

Channel 44

Location

Customer

Antenna Type

TFU-30DSC-R C170

TABULATION OF AZIMUTH PATTERN

Azimuth Pattern Drawing #

TFU-C170

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
0	0.733	45	0.996	90	0.905	135	0.910	180	1.000	225	0.663	270	0.207	315	0.204
1	0.747	46	0.995	91	0.905	136	0.911	181	1.000	226	0.648	271	0.209	316	0.206
2	0.760	47	0.993	92	0.904	137	0.912	182	1.000	227	0.634	272	0.211	317	0.207
3	0.773	48	0.992	93	0.903	138	0.914	183	0.999	228	0.619	273	0.214	318	0.210
4	0.785	49	0.990	94	0.903	139	0.915	184	0.998	229	0.604	274	0.216	319	0.214
5	0.797	50	0.988	95	0.902	140	0.917	185	0.997	230	0.588	275	0.219	320	0.218
6	0.809	51	0.986	96	0.902	141	0.918	186	0.996	231	0.573	276	0.222	321	0.223
7	0.821	52	0.983	97	0.901	142	0.920	187	0.994	232	0.558	277	0.224	322	0.229
8	0.832	53	0.981	98	0.901	143	0.922	188	0.992	233	0.543	278	0.227	323	0.235
9	0.843	54	0.978	99	0.901	144	0.924	189	0.990	234	0.527	279	0.229	324	0.243
10	0.854	55	0.976	100	0.900	145	0.926	190	0.987	235	0.512	280	0.232	325	0.251
11	0.864	56	0.973	101	0.900	146	0.928	191	0.984	236	0.497	281	0.234	326	0.260
12	0.874	57	0.971	102	0.900	147	0.930	192	0.981	237	0.482	282	0.236	327	0.269
13	0.883	58	0.968	103	0.900	148	0.932	193	0.977	238	0.466	283	0.238	328	0.280
14	0.893	59	0.965	104	0.900	149	0.934	194	0.973	239	0.451	284	0.240	329	0.290
15	0.901	60	0.963	105	0.900	150	0.936	195	0.968	240	0.437	285	0.241	330	0.302
16	0.910	61	0.960	106	0.899	151	0.939	196	0.963	241	0.422	286	0.242	331	0.313
17	0.918	62	0.957	107	0.899	152	0.941	197	0.958	242	0.407	287	0.243	332	0.326
18	0.925	63	0.954	108	0.899	153	0.944	198	0.952	243	0.393	288	0.244	333	0.338
19	0.933	64	0.952	109	0.899	154	0.946	199	0.946	244	0.379	289	0.244	334	0.352
20	0.940	65	0.949	110	0.899	155	0.949	200	0.940	245	0.365	290	0.245	335	0.365
21	0.946	66	0.946	111	0.899	156	0.952	201	0.933	246	0.352	291	0.244	336	0.379
22	0.952	67	0.944	112	0.899	157	0.954	202	0.925	247	0.338	292	0.244	337	0.393
23	0.958	68	0.941	113	0.899	158	0.957	203	0.918	248	0.326	293	0.243	338	0.407
24	0.963	69	0.939	114	0.899	159	0.960	204	0.910	249	0.313	294	0.242	339	0.422
25	0.968	70	0.936	115	0.900	160	0.963	205	0.901	250	0.302	295	0.241	340	0.437
26	0.973	71	0.934	116	0.900	161	0.965	206	0.893	251	0.290	296	0.240	341	0.451
27	0.977	72	0.932	117	0.900	162	0.968	207	0.883	252	0.280	297	0.238	342	0.466
28	0.981	73	0.930	118	0.900	163	0.971	208	0.874	253	0.269	298	0.236	343	0.482
29	0.984	74	0.928	119	0.900	164	0.973	209	0.864	254	0.260	299	0.234	344	0.497
30	0.987	75	0.926	120	0.900	165	0.976	210	0.854	255	0.251	300	0.232	345	0.512
31	0.990	76	0.924	121	0.901	166	0.978	211	0.843	256	0.243	301	0.229	346	0.527
32	0.992	77	0.922	122	0.901	167	0.981	212	0.832	257	0.235	302	0.227	347	0.543
33	0.994	78	0.920	123	0.901	168	0.983	213	0.821	258	0.229	303	0.224	348	0.558
34	0.996	79	0.918	124	0.902	169	0.986	214	0.809	259	0.223	304	0.222	349	0.573
35	0.997	80	0.917	125	0.902	170	0.988	215	0.797	260	0.218	305	0.219	350	0.588
36	0.998	81	0.915	126	0.903	171	0.990	216	0.785	261	0.214	306	0.216	351	0.604
37	0.999	82	0.914	127	0.903	172	0.992	217	0.773	262	0.210	307	0.214	352	0.619
38	1.000	83	0.912	128	0.904	173	0.993	218	0.760	263	0.207	308	0.211	353	0.634
39	1.000	84	0.911	129	0.905	174	0.995	219	0.747	264	0.206	309	0.209	354	0.648
40	1.000	85	0.910	130	0.905	175	0.996	220	0.733	265	0.204	310	0.207	355	0.663
41	1.000	86	0.909	131	0.906	176	0.997	221	0.720	266	0.204	311	0.206	356	0.677
42	0.999	87	0.908	132	0.907	177	0.998	222	0.706	267	0.204	312	0.205	357	0.692
43	0.998	88	0.907	133	0.908	178	0.999	223	0.692	268	0.205	313	0.204	358	0.706
44	0.997	89	0.906	134	0.909	179	1.000	224	0.677	269	0.206	314	0.204	359	0.720

Remarks:



Date

04 Nov 2004

Call Letters

Channel 44

Location

Customer

Antenna Type

TFU-30DSC-R C170

ELEVATION PATTERN

RMS Gain at Main Lobe

25.5 (14.07 dB)

Beam Tilt

0.75 Degrees

RMS Gain at Horizontal

16.6 (12.20 dB)

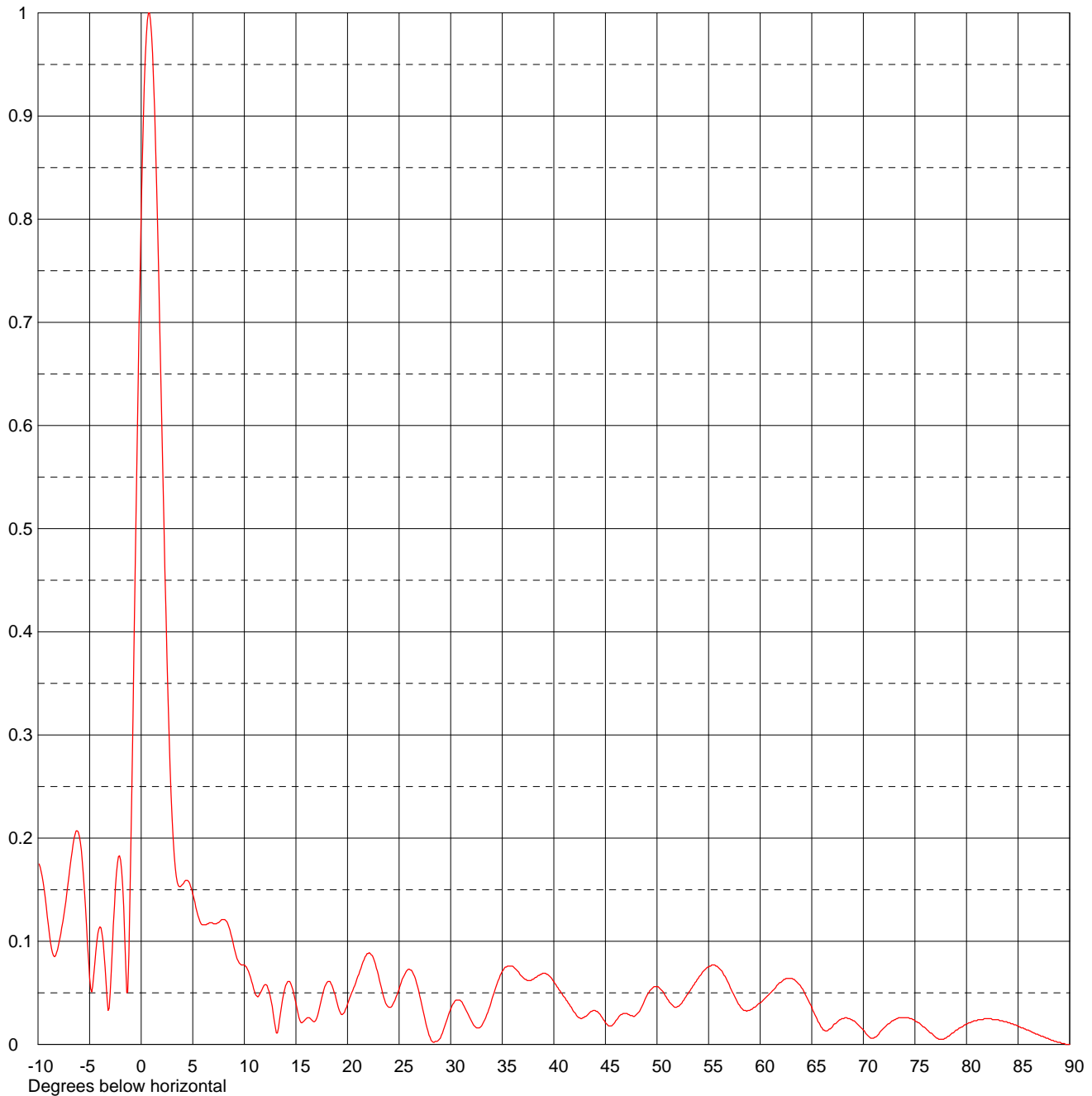
Frequency

653.00 MHz

Calculated / Measured

Calculated

Drawing #

30Q255075-90

Remarks:



Date

04 Nov 2004

Call Letters

Channel 44

Location

Customer

Antenna Type

TFU-30DSC-R C170

TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing #

30Q255075-90

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.176	2.4	0.416	10.6	0.065	30.5	0.043	51.0	0.044	71.5	0.010
-9.5	0.157	2.6	0.336	10.8	0.058	31.0	0.042	51.5	0.038	72.0	0.016
-9.0	0.116	2.8	0.270	11.0	0.051	31.5	0.033	52.0	0.037	72.5	0.020
-8.5	0.086	3.0	0.219	11.5	0.049	32.0	0.023	52.5	0.042	73.0	0.024
-8.0	0.097	3.2	0.183	12.0	0.058	32.5	0.016	53.0	0.049	73.5	0.026
-7.5	0.125	3.4	0.163	12.5	0.047	33.0	0.018	53.5	0.057	74.0	0.026
-7.0	0.163	3.6	0.154	13.0	0.017	33.5	0.029	54.0	0.064	74.5	0.025
-6.5	0.200	3.8	0.153	13.5	0.030	34.0	0.044	54.5	0.071	75.0	0.023
-6.0	0.202	4.0	0.155	14.0	0.057	34.5	0.059	55.0	0.075	75.5	0.020
-5.5	0.149	4.2	0.158	14.5	0.059	35.0	0.071	55.5	0.077	76.0	0.016
-5.0	0.065	4.4	0.159	15.0	0.040	35.5	0.076	56.0	0.074	76.5	0.011
-4.5	0.078	4.6	0.158	15.5	0.021	36.0	0.076	56.5	0.067	77.0	0.007
-4.0	0.114	4.8	0.153	16.0	0.025	36.5	0.071	57.0	0.058	77.5	0.005
-3.5	0.075	5.0	0.146	16.5	0.024	37.0	0.065	57.5	0.047	78.0	0.006
-3.0	0.051	5.2	0.138	17.0	0.025	37.5	0.062	58.0	0.038	78.5	0.010
-2.8	0.093	5.4	0.129	17.5	0.045	38.0	0.063	58.5	0.033	79.0	0.014
-2.6	0.134	5.6	0.122	18.0	0.060	38.5	0.067	59.0	0.033	79.5	0.017
-2.4	0.166	5.8	0.117	18.5	0.057	39.0	0.069	59.5	0.036	80.0	0.020
-2.2	0.182	6.0	0.116	19.0	0.040	39.5	0.067	60.0	0.040	80.5	0.022
-2.0	0.179	6.2	0.116	19.5	0.029	40.0	0.061	60.5	0.045	81.0	0.023
-1.8	0.154	6.4	0.117	20.0	0.039	40.5	0.053	61.0	0.050	81.5	0.024
-1.6	0.106	6.6	0.118	20.5	0.052	41.0	0.046	61.5	0.055	82.0	0.025
-1.4	0.050	6.8	0.118	21.0	0.066	41.5	0.039	62.0	0.060	82.5	0.024
-1.2	0.087	7.0	0.117	21.5	0.080	42.0	0.031	62.5	0.064	83.0	0.024
-1.0	0.193	7.2	0.117	22.0	0.088	42.5	0.026	63.0	0.064	83.5	0.023
-0.8	0.316	7.4	0.118	22.5	0.084	43.0	0.027	63.5	0.061	84.0	0.021
-0.6	0.447	7.6	0.119	23.0	0.067	43.5	0.031	64.0	0.055	84.5	0.020
-0.4	0.577	7.8	0.121	23.5	0.046	44.0	0.033	64.5	0.046	85.0	0.018
-0.2	0.699	8.0	0.121	24.0	0.036	44.5	0.029	65.0	0.036	85.5	0.016
0.0	0.807	8.2	0.120	24.5	0.041	45.0	0.021	65.5	0.025	86.0	0.014
0.2	0.894	8.4	0.117	25.0	0.054	45.5	0.018	66.0	0.016	86.5	0.011
0.4	0.957	8.6	0.111	25.5	0.067	46.0	0.023	66.5	0.013	87.0	0.009
0.6	0.993	8.8	0.103	26.0	0.073	46.5	0.029	67.0	0.017	87.5	0.007
0.8	1.000	9.0	0.094	26.5	0.066	47.0	0.030	67.5	0.022	88.0	0.005
1.0	0.980	9.2	0.086	27.0	0.047	47.5	0.028	68.0	0.025	88.5	0.003
1.2	0.936	9.4	0.081	27.5	0.025	48.0	0.029	68.5	0.025	89.0	0.002
1.4	0.870	9.6	0.078	28.0	0.007	48.5	0.036	69.0	0.023	89.5	0.001
1.6	0.789	9.8	0.077	28.5	0.003	49.0	0.047	69.5	0.019	90.0	0.000
1.8	0.697	10.0	0.077	29.0	0.006	49.5	0.054	70.0	0.014		
2.0	0.601	10.2	0.075	29.5	0.020	50.0	0.056	70.5	0.008		
2.2	0.506	10.4	0.071	30.0	0.034	50.5	0.052	71.0	0.006		

Remarks: