

**RADIOFREQUENCY ELECTROMAGNETIC FIELD
SURVEY
FOR
MT. WILSON FM BROADCASTERS, INC.
LICENSEE OF
KMZT-FM, CH 286B, LOS ANGELES, CA
AUXILIARY ANTENNA**

BXPH-20041105AJS (4 BAY CP)

MARCH 2005

**BY:
BEEM CO.
ARCADIA, CA
(626) 446-3468**

ENGINEERING STATEMENT OF JOEL T. SAXBERG

This technical report was prepared for Mt. Wilson FM Broadcasters, Inc., licensee of FM station KMZT-FM Channel 286B, Los Angeles, CA by Broadcast Engineering and Equipment Maintenance Company, "BEEM CO." The KMZT-FM auxiliary antenna is a four-element model with radomes. KZMT-FM has an auxiliary construction permit for 18 kW with beam tilt using this antenna. The auxiliary antenna is mounted on a self-supporting tower at 47 meters above ground level.

RF Survey – RF surveys were made on March 21, 2005 with Mr. John J. Davis, P.E. a well-known Consulting Engineer assisting. RF surveys were made inside the fenced transmitter site, inside the KMZT transmitter building, outside the fence along the main access road, and along the access road to KLVE-FM. Inside the fenced KMZT site are also the facilities of KPFK. A Narda Model 8718-10 radiation survey meter with an 8742 shaped E field probe, a Nardalert XT personal monitor and an Argent personal RF monitor were all used in making the KMZT site survey. Calibration on the measuring equipment was completed on the following dates:

8718-10, s/n 01559, calibrated 3/31/2004

8732, s/n 06012, calibrated 3/30/2004

8742, s/n 03004, calibrated 3/30/2004

A8864 s/n 03034, new purchase 11/2004

Method of Measurement – The survey meter was set to read instantaneous peak values and log data at one-second intervals. The survey meter was connected to a shaped E-Field probe, set in a zero field and calibrated. Shaped probes read percent of standard and the particular probe used reads percent of standard for "controlled environments", which is the occupational standard. General Public

maximum permissible values in the FM and TV broadcast frequencies are 20% of standard. For conversion, it is necessary to multiply the survey reading by a factor of five to obtain the General Public value. A meter reading of 20% represents 100% or the Maximum Permissible Exposure (MPE) level for the General Public. On Mt. Wilson there are in operation, paging, FM, and TV transmitters. The site is fenced and is entered through locked gates. Access to the fenced area is for authorized personnel only. The general public may access areas outside the fence and a paved road runs in front of the site along the ridge. The area inside the fence was measured first, then inside the transmitter building, then along the paved Mt. Wilson road and finally along the access road to KLVE. Instantaneous peak readings with KMZT operating on its auxiliary antenna did not exceed the MPE limit for uncontrolled areas so spatial averaging techniques were not used as spatial averaging has been found to yield lower values than those taken when using peak hold.

The highest peak readings are shown:

% MPE FOR GENERAL PUBLIC

INSIDE FENCE/BLDG	97.00%
MT WILSON ROAD	67.50%
KLVE ROAD	45.50%

It was noted that random keying from non-continuous radiators contributed to peak hold readings on occasion. The keyed short duration transmissions made it difficult to repeat some of the high values recorded. No locations either inside or outside the KMZT fenced area were found to exceed the MPE level for the general public. There were no “hot spots” or abnormally high readings except for the random keying transmissions mentioned above. The technique in using the meter and probe is that demonstrated in a video sold by the equipment manufacturer and produced by Mr. Richard Tell, a recognized authority in radiofrequency electromagnetic field studies. The probe was slowly moved up and down while walking the area with the survey meter set to

read instantaneous peak values. Again, spatial averages were not taken, as instantaneous readings did not exceed or show continuously high readings near the General Public limit. The Argent monitor (set at 0.2 mW/cm²) did not alarm during the taking of measurements taking nor did the Nardalert XT Model A8864 monitor, which was set to alarm at 50% of the occupational limit. According to the results of the RF survey, the site, transmitter building, and areas immediately outside the site fence are within FCC guideline levels for the General Public.

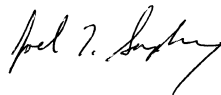
IBOC TRANSMITTER - During the RF survey, I placed myself at a location inside the fenced area where the survey meter was indicating the presence of an E-field signal from the four bay auxiliary KMZT antenna while Mr. Davis turned on and off the newly installed B.E. IBOC. There was no discernable change in the reading on the survey meter. The IBOC transmitter is connected to a single bay antenna approximately 60 meters AGL and has an ERP of 180 watts.

ENGINEERING CERTIFICATION

JOEL T. SAXBERG deposes and says:

- 1. That he is President of Broadcast Engineering and Equipment Maintenance Company, "BEEM CO.", radio engineering consultants. BEEM CO. maintains offices at: 2322 S. Second Avenue, Arcadia, CA 91006. Telephone (626) 446-3468**
- 2. That he was graduated from California State University at Los Angeles, February 1966, with a Bachelor of Science degree in Electronic Engineering. He received a MS degree in Electronic Engineering Technology in August 1996.**
- 3. That he has submitted many applications to the Federal Communications Commission for broadcast and auxiliary broadcast construction permits and licenses.**
- 4. That his experience in broadcast engineering is a matter of record and he has spent over thirty years working in the field of radio engineering.**
- 5. That the attached engineering exhibit(s) and report(s) were prepared by him or under his direction and supervision. That he believes the facts stated therein to be both true and accurate. Statements that are based on information supplied by others are also believed to be true and accurate.**
- 6. That he has performed field work on AM and FM broadcast transmitting systems throughout this country and continues to provide technical consulting services on a daily basis to broadcasters.**
- 7. That he declares under penalty of perjury the foregoing is true and correct.**

Executed on March 23, 2005



Joel T. Saxberg

Run Ref. Number: 03

Date: 03/21/05 Start Time: 10:18

Model 8718 S/N: 1559 Cal Date: 03/31/04 Due: 03/31/05

Probe: 8742 S/N: 03004 Cal Date: 03/31/04 Due: 03/31/05

Freq: N/A Cor. Factor: 1.00 Logging Rate: 1 / Sec

Avg Mode: N/A

Ref#,Field Strength

001,0.51	056,0.00	111,1.63	166,0.04	221,0.47
002,0.56	057,0.00	112,1.48	167,0.00	
003,0.79	058,0.00	113,1.56	168,0.00	
004,1.22	059,0.00	114,0.58	169,0.00	
005,0.79	060,0.00	115,0.58	170,0.00	
006,0.99	061,0.00	116,0.38	171,0.00	
007,1.24	062,0.00	117,2.29	172,0.00	
008,1.46	063,0.00	118,2.91	173,0.00	
009,0.98	064,0.00	119,2.78	174,0.00	
010,1.11	065,0.00	120,1.33	175,0.00	
011,1.24	066,0.00	121,1.82	176,0.00	
012,1.46	067,0.00	122,1.59	177,0.00	
013,1.82	068,0.00	123,0.00	178,0.00	
014,2.18	069,0.00	124,0.00	179,0.00	
015,0.23	070,0.00	125,0.00	180,0.00	
016,0.00	071,0.75	126,0.00	181,0.00	
017,0.21	072,0.32	127,0.00	182,0.00	
018,0.00	073,1.74	128,0.99	183,0.00	
019,0.00	074,1.18	129,0.00	184,0.00	
020,0.00	075,1.22	130,1.07	185,0.00	
021,0.00	076,0.83	131,3.06	186,0.00	
022,0.24	077,1.33	132,2.16	187,0.00	
023,0.00	078,0.09	133,0.00	188,0.00	
024,0.00	079,1.20	134,1.16	189,0.00	
025,0.00	080,1.46	135,0.94	190,0.00	
026,0.00	081,0.00	136,0.00	191,0.00	
027,0.11	082,1.14	137,2.12	192,0.00	
028,0.32	083,3.39	138,2.01	193,0.00	
029,0.00	084,0.00	139,0.00	194,0.41	
030,0.00	085,1.13	140,1.41	195,0.04	
031,0.73	086,1.39	141,0.00	196,0.08	
032,0.17	087,0.92	142,3.00	197,0.98	
033,0.00	088,3.13	143,0.00	198,0.75	
034,0.00	089,3.28	144,2.19	199,0.41	
035,0.00	090,2.36	145,0.09	200,0.00	
036,0.00	091,0.84	146,0.00	201,0.00	
037,0.00	092,0.64	147,0.79	202,0.00	
038,0.26	093,6.00	148,0.00	203,0.00	
039,0.36	094,3.02	149,0.00	204,0.24	
040,0.00	095,0.04	150,0.00	205,0.62	
041,0.00	096,0.00	151,0.00	206,0.68	
042,0.00	097,2.70	152,0.00	207,0.06	
043,0.00	098,0.15	153,0.00	208,0.17	
044,0.00	099,0.00	154,0.00	209,0.00	
045,0.00	100,1.91	155,0.00	210,0.23	
046,0.00	101,0.00	156,0.00	211,0.90	
047,0.00	102,0.38	157,0.00	212,0.13	
048,0.00	103,0.00	158,0.00	213,0.90	
049,0.00	104,2.16	159,0.00	214,1.16	
050,0.00	105,0.51	160,0.00	215,0.83	
051,0.00	106,0.06	161,0.00	216,0.73	
052,0.00	107,0.00	162,0.00	217,0.64	
053,0.00	108,1.03	163,0.00	218,0.66	
054,0.00	109,1.67	164,0.00	219,0.64	
055,0.00	110,1.80	165,0.00	220,0.66	

Run Ref. Number: 05

Date: 03/21/05 Start Time: 10:32

Model 8718 S/N: 1559 Cal Date: 03/31/04 Due: 03/31/05

Probe: 8742 S/N: 03004 Cal Date: 03/31/04 Due: 03/31/05

Freq: N/A Cor. Factor: 1.00 Logging Rate: 1 / Sec

Avg Mode: N/A

Ref# Field Strength

	056	0.00	112	0.39	
001	0.66	057	0.00	113	0.47
002	0.77	058	0.00	114	0.02
003	1.91	059	0.00	115	0.00
004	2.85	060	0.00	116	0.00
005	1.86	061	0.00		
006	2.48	062	0.00		
007	2.48	063	0.00		
008	2.42	064	0.04		
009	2.40	065	0.00		
010	1.59	066	0.84		
011	1.84	067	0.32		
012	1.39	068	0.00		
013	0.79	069	0.00		
014	0.23	070	0.00		
015	1.26	071	0.00		
016	1.93	072	0.00		
017	0.21	073	0.54		
018	0.56	074	0.79		
019	0.00	075	0.09		
020	2.83	076	0.00		
021	0.84	077	0.00		
022	0.09	078	0.23		
023	0.00	079	0.00		
024	0.00	080	0.00		
025	0.00	081	0.00		
026	0.00	082	0.56		
027	0.38	083	0.06		
028	0.00	084	0.00		
029	0.00	085	0.00		
030	0.00	086	0.00		
031	0.00	087	0.00		
032	0.24	088	0.00		
033	0.00	089	0.15		
034	0.00	090	0.79		
035	0.00	091	0.00		
036	0.00	092	0.32		
037	0.00	093	0.53		
038	0.00	094	0.00		
039	0.00	095	0.00		
040	0.00	096	0.00		
041	0.00	097	0.00		
042	0.00	098	0.00		
043	0.00	099	0.00		
044	0.00	100	0.00		
045	0.00	101	0.00		
046	0.00	102	0.02		
047	0.00	103	0.00		
048	0.00	104	0.00		
049	0.00	105	0.00		
050	0.00	106	0.00		
051	0.00	107	0.00		
052	0.00	108	0.00		
053	0.00	109	0.00		
054	0.00	110	0.00		
055	0.00	111	0.00		

Run Ref. Number: 06

Date: 03/21/05 Start Time: 10:36

Model 8718 S/N: 1559 Cal Date: 03/31/04 Due: 03/31/05

Probe: 8742 S/N: 03004 Cal Date: 03/31/04 Due: 03/31/05

Freq: N/A Cor. Factor: 1.00 Logging Rate: 1 / Sec

Avg Mode: N/A

Ref# Field Strength

001	2.87	056	11.68	111	3.04	166	1.07	221	12.22
002	3.06	057	11.15	112	2.08	167	0.62	222	12.67
003	3.06	058	9.15	113	1.13	168	0.75		
004	3.11	059	8.34	114	3.28	169	0.39		
005	5.46	060	7.07	115	2.83	170	1.31		
006	5.42	061	7.65	116	4.13	171	0.94		
007	1.35	062	9.00	117	3.71	172	0.02		
008	1.28	063	9.38	118	3.23	173	0.66		
009	1.43	064	4.46	119	3.53	174	0.58		
010	1.58	065	5.31	120	2.74	175	0.26		
011	5.61	066	8.18	121	3.45	176	0.24		
012	5.66	067	10.10	122	2.96	177	0.68		
013	2.23	068	8.87	123	3.41	178	0.45		
014	4.52	069	9.00	124	2.16	179	1.24		
015	5.33	070	5.38	125	3.30	180	1.54		
016	3.15	071	4.99	126	1.20	181	0.43		
017	2.66	072	5.06	127	1.84	182	0.28		
018	3.13	073	4.95	128	1.24	183	0.47		
019	3.49	074	4.82	129	2.36	184	0.64		
020	1.20	075	1.69	130	2.93	185	0.15		
021	2.98	076	2.12	131	3.64	186	0.15		
022	2.85	077	2.59	132	3.47	187	0.66		
023	5.38	078	2.63	133	6.23	188	0.38		
024	2.79	079	2.33	134	3.41	189	0.66		
025	1.89	080	1.69	135	3.41	190	1.11		
026	4.39	081	1.50	136	3.09	191	2.93		
027	2.87	082	0.39	137	3.75	192	5.94		
028	1.76	083	0.73	138	3.96	193	3.21		
029	4.95	084	0.71	139	1.63	194	1.88		
030	4.67	085	0.41	140	1.50	195	4.82		
031	2.94	086	0.83	141	1.93	196	4.44		
032	6.49	087	0.32	142	1.63	197	4.54		
033	2.66	088	1.37	143	1.24	198	5.68		
034	5.25	089	1.71	144	1.78	199	6.21		
035	2.85	090	1.80	145	2.25	200	5.85		
036	1.11	091	2.70	146	2.25	201	6.21		
037	0.73	092	2.18	147	2.55	202	5.53		
038	0.62	093	2.23	148	2.34	203	8.08		
039	0.94	094	2.78	149	1.44	204	10.27		
040	0.73	095	1.91	150	2.06	205	8.64		
041	0.66	096	1.07	151	2.12	206	11.06		
042	0.83	097	3.21	152	1.11	207	9.99		
043	1.71	098	2.51	153	3.43	208	11.70		
044	0.64	099	1.33	154	3.30	209	11.94		
045	1.48	100	3.21	155	2.14	210	9.64		
046	1.33	101	3.30	156	3.09	211	9.30		
047	1.59	102	2.38	157	2.91	212	9.26		
048	1.91	103	3.09	158	0.84	213	12.61		
049	3.81	104	2.83	159	2.57	214	12.93		
050	6.26	105	6.36	160	1.91	215	13.36		
051	6.54	106	2.78	161	1.35	216	13.23		
052	4.43	107	3.71	162	1.58	217	13.16		
053	10.87	108	4.91	163	1.76	218	12.91		
054	12.78	109	2.33	164	0.96	219	12.37		
055	12.48	110	5.70	165	1.52	220	10.83		