

Technical Report K246CH Minor Modification

This technical report is submitted in support of a minor modification to K246CH construction permit file no. BPFT-20160129AVI. A change to non-adjacent channel 256 and increase in ERP to 250 Watts is proposed pursuant to the provisions of FCC 17-14, MB Docket 13-249, footnote 22. The translator will continue to serve as a fill-in facility for KIKO(AM) 1340 kHz at Apache Junction, AZ (72477) and remains with 250 miles of its origin.

K246CH Modification Analysis:

An overlap study (exhibit E-1) shows the K246CH modification at channel 256 is within the KMVP-FM 254C second-adjacent protected contour. The KFXV-LP FM 256L1 license and applications have been dismissed. A tabulation of the 117.91 +40 dBu F(50-10) contour (exhibit E-2) shows the interfering contour will not encompass any population, major roads or occupied buildings (exhibit E-3). The 60 dBu contour overlaps the current 60 dBu contour and is contained within the primary KIKO(AM) 2.0 mV/m daytime contour (exhibit E-4).

Antenna System:

The K246CH modification is located on the existing 46 meter tower at coordinates:

33 29 33N 111 38 24W NAD 27.

A TOWAIR determination (exhibit E-5) shows the tower does not require registration. A Scala CL-FM single bay, horizontally-polarized, directional antenna oriented at 208 degrees azimuth (exhibit E-6) is mounted at a COR AGL of 10 meters, 771 meters AMSL

and will operate at 0.250 kW ERP.

RF Exposure Calculation:

The RF contribution was calculated using FM Model (exhibit E-7). The resulting RF is calculated to be $36.2 \mu\text{W}/\text{cm}^2$ at a distance of 4.6 meters from the base of the tower, which is well below the $1000 \mu\text{W}/\text{cm}^2$ maximum permissible for controlled, occupational exposure.

Conclusion:

It is concluded the K246CH modification complies with all Commission rules and policies.



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E-1 K246CH Mod. Overlap Study

REFERENCE 33 29 33.0 N. 111 38 24.0 W.		CH# 256D - 99.1 MHz, Pwr= 0.25 kW DA, HAAT= 262.0 M, COR= 771 M Average Protected F(50-50)= 21.14 km Standard Directional							DISPLAY DATES DATA 06-27-18 SEARCH 06-27-18		
CH CITY	CALL	TYPE STATE	ANT STATE	AZI <--	DIST FILE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
256L1 Mesa	DKFX- LP	APP	---	162.2 342.2	5.48 BPL20180117ACV	33 26 44.0 111 37 19.0	0.006 115	628	San Tan Educational Media	-21.7*	-69.5*(1)
256L1 Mesa	DKFX- LP	LIX	---	152.3 332.3	6.65 BLL20170710AAT	33 26 22.1 111 36 23.8	0.100 7	545	San Tan Educational Media	-20.1*	-68.8*
256L1 Mesa	DKFX- LP	APP	---	152.4 332.4	6.67 BPL20170911ADI	33 26 21.5 111 36 24.1	0.100 1	538	San Tan Educational Media	-20.2*	-68.7*
254C Phoenix	KMVP-FM	LIC	_C_	245.8 65.6	43.11 BMLH20040707ABN	33 19 58.0 112 03 48.0	100.000 545	12.3 911	84.8 Bonnevillie International C	10.6	-42.3*(2)
256D Globe	DK256DB	APP	DV_	159.5 339.5	29.11 BPFT20170710ABF	33 14 50.0 111 31 49.0	0.250	40.2 618	3.3 Rocket Radio Corporation	-22.1*	-39.0*
257C2 Payson	KEMP	CP	ZCX	19.9 200.0	81.83 BPH20100430ACE	34 11 04.0 111 20 16.0	50.000 140	109.3 1468	73.7 Kemp Communications, Inc.	-30.5*	2.4
256D Phoenix	K246CH	APP	DH_	90.0 270.0	0.02 BPFT20180625ABP	33 29 33.0 111 38 23.0	0.250	772	---Reference---		Rocket Radio Corporation
257C3 Payson	KEMP	LIC	_CX	19.9 200.0	81.83 BLH20070813ABX	34 11 04.0 111 20 16.0	17.000 123	91.6 1457	61.8 Kemp Communications, Inc.	-12.8*	14.2
256D Globe	DK256DB	LIC	DV_	128.3 308.5	57.00 BLFT20170614AAU	33 10 26.0 111 09 33.0	0.250	56.2 1063	3.5 Rocket Radio Corporation	-5.7	13.1
256D Globe	DK256DB	LIC	DV_	106.5 287.0	78.59 BLFT20170424AAQ	33 17 20.0 110 49 45.0	0.099	74.0 2315	11.1 Rocket Radio Corporation	0.9	48.2
257L1 Gold Canyon	KRWV- LP	LIC	---	131.0 311.1	25.49 BLL20150727AAP	33 20 31.0 111 25 57.9	0.100	573	2.7 Gold Canyon Public Radio I		8.2
257D Phoenix	K257CD	LIC	_DC_	285.4 105.2	42.91 BLFT20180213AAA	33 35 40.0 112 05 12.0	0.250	29.7 671	15.3 Michael Piazza, LIc	3.9	10.7
258D Casa Grande	K271CR	APP	DV_	183.3 3.3	54.50 BPFT20180514AAE	33 00 11.0 111 40 26.0	0.250	0.4 843	11.1 Mountain Community Transla	32.6	34.8
202C1 Phoenix	KCCF-FM	LIC	_CN	285.6 105.3	43.47 BLED19920121KC	33 35 47.0 112 05 29.0	22.500 304	8.0 704	5.6 Cesar Chavez Foundation	9.5R	34.0M
202C1 Phoenix	KPHF	LIC	_C_	285.5 105.3	43.52 BLED19990716KB	33 35 47.0 112 05 31.0	22.500 297	8.0 704	5.6 Family Stations, Inc.	9.5R	34.0M

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= West 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 restricted contour.
« = Station meets FCC minimum distance spacing for its class.
Reference station has protected zone issue: Mexico

- (1) The KFX- 256L1 license and applications have been dismissed.
- (2) The +40 117.9 F(50-10) dBu contour within the KMVP-FM 254C second-adjacent protected contour (exhibit E-2) does not encompass any population, major roads or buildings (exhibit E-3).

E-2 K246CH Mod. 256D +40 dBu Calculation Within KMVP-FM 254C

K246CH Phoenix, AZ, Showing Protection to KMVP-FM
Geographic Coordinates: N.33 29 33.00 W.111 38 24.00
74.1204(d) Study - Using FCC 30 SEC Terrain Database
Translator or LPFM Maximum Licensed ERP = 0.25
Translator or LPFM Antenna Height AG = 10 Meters
K246CH Antenna Model = CLFM-Hpol

Protected Station's Contour = 77.90785 dBu
Translator's or LPFM's full Interference contour 117.90785

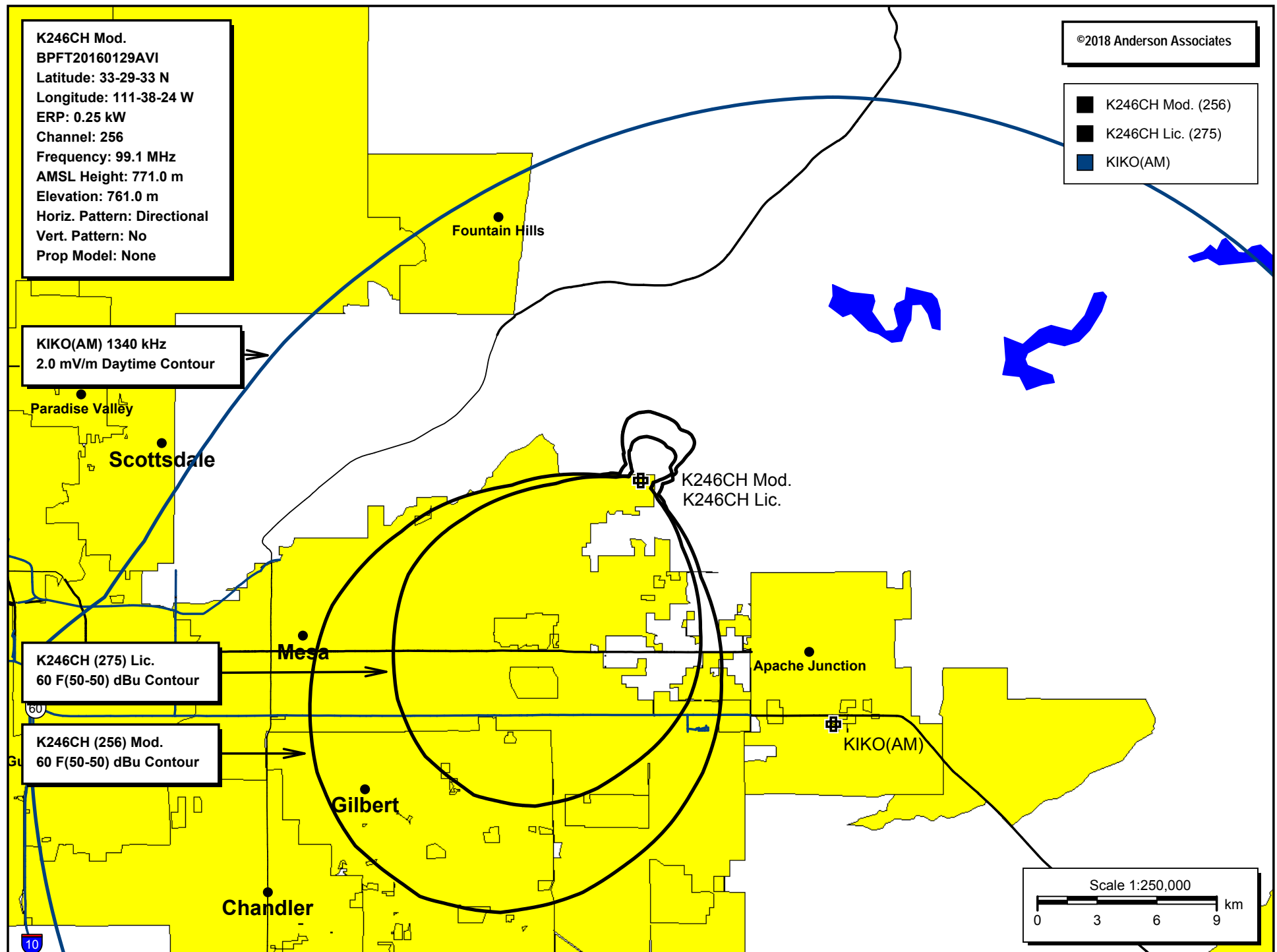
Review Azimuth = 208 Degrees True
Relative Field on the horizon at Review Azimuth = 1.000
Translator/LPFM ERP on the horizon at Review Azimuth = 0.25 kW
Distance between stations = 43.1 km
Protected Station= KMVP-FM, 100 kW, 911 M Meters COR AMSL

Depression Angle From Horizon(Deg)	Vertical Relative Field	Horizontal Relative Field	ERP (kw)	Dist to IX Contour Along Dep. Angle(m)	Dist to IX Contour From Tower Base(m)	Height IX Above Ground (m)(1)
00.00	1.0	1.0	0.2500	141.1164	141.1164	010.000
05.00	0.994	1.0	0.2468	140.1991	139.6656	-002.219
10.00	0.98	1.0	0.2401	138.2941	136.1931	-014.015
15.00	0.953	1.0	0.2268	134.4134	129.8333	-024.789
20.00	0.917	1.0	0.2100	129.3332	121.5334	-034.235
25.00	0.873	1.0	0.1903	123.1241	111.5883	-042.034
30.00	0.818	1.0	0.1671	115.3627	099.9070	-047.681
35.00	0.756	1.0	0.1427	106.6134	087.3326	-051.151
40.00	0.69	1.0	0.1190	097.3703	074.5900	-052.588
45.00	0.618	1.0	0.0953	087.1394	061.6168	-051.617
50.00	0.544	1.0	0.0738	076.6968	049.2997	-048.753
55.00	0.468	1.0	0.0546	065.9719	037.8399	-044.041
60.00	0.39	1.0	0.0380	055.0354	027.5177	-037.662
65.00	0.3	1.0	0.0225	042.3349	017.8915	-028.368
70.00	0.19	1.0	0.0090	026.8121	009.1703	-015.195
75.00	0.11	1.0	0.0030	015.5228	004.0176	-004.994
80.00	0.05	1.0	0.0006	007.0558	001.2252	003.051
85.00	0.03	1.0	0.0002	004.2335	000.3690	005.783
90.00	0.03	1.0	0.0002	004.2335	000.0000	005.767

(1) The +40 117.91 F(50-10) dBu contour does not encompass any population, roads or occupied buildings, as shown in the aerial photo in exhibit E-3.



E-4 K246CH (275) Mod. 60 dBu Contour Plot



TOWAIR Determination Results

*** NOTICE ***

TOWAIR's findings are not definitive or binding, and we cannot guarantee that the data in TOWAIR are fully current and accurate. In some instances, TOWAIR may yield results that differ from application of the criteria set out in 47 C.F.R. Section 17.7 and 14 C.F.R. Section 77.13. A positive finding by TOWAIR recommending notification should be given considerable weight. On the other hand, a finding by TOWAIR recommending either for or against notification is not conclusive. It is the responsibility of each ASR participant to exercise due diligence to determine if it must coordinate its structure with the FAA. TOWAIR is only one tool designed to assist ASR participants in exercising this due diligence, and further investigation may be necessary to determine if FAA coordination is appropriate.

DETERMINATION Results

Structure does not require registration. There are no airports within 8 kilometers (5 miles) of the coordinates you provided.

Your Specifications

NAD83 Coordinates

Latitude	33-29-33.6 north
Longitude	111-38-26.1 west

Measurements (Meters)

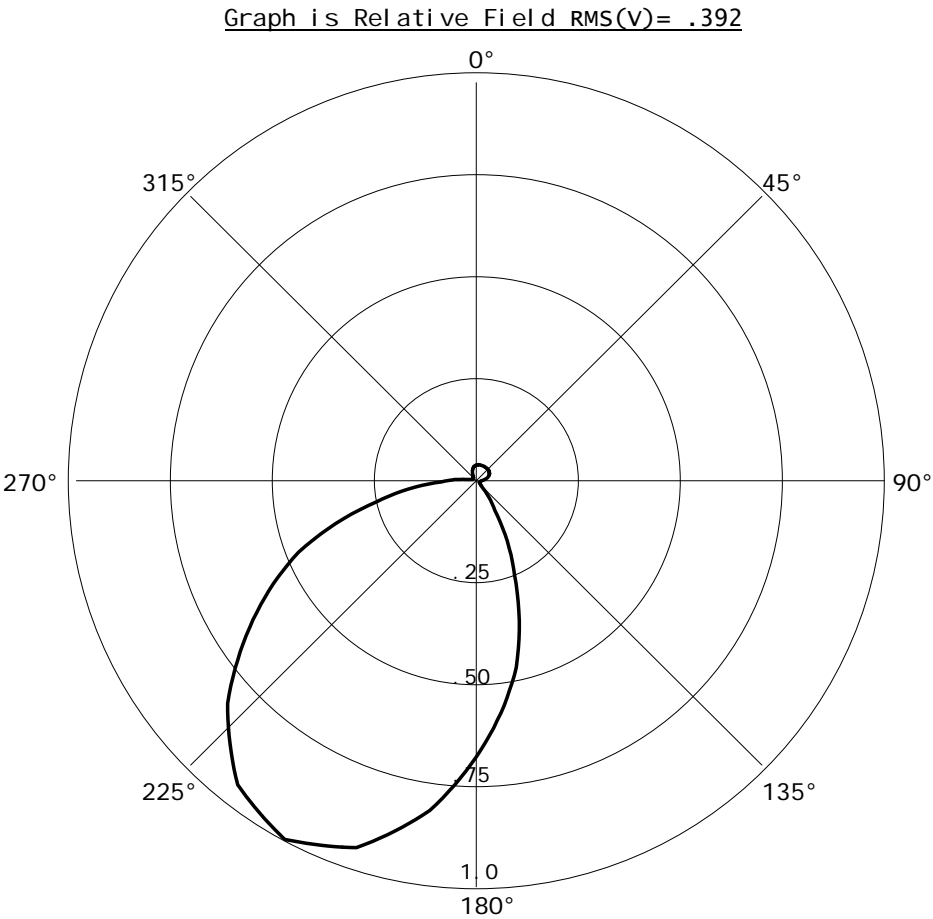
Overall Structure Height (AGL)	46
Support Structure Height (AGL)	0
Site Elevation (AMSL)	761

Structure Type

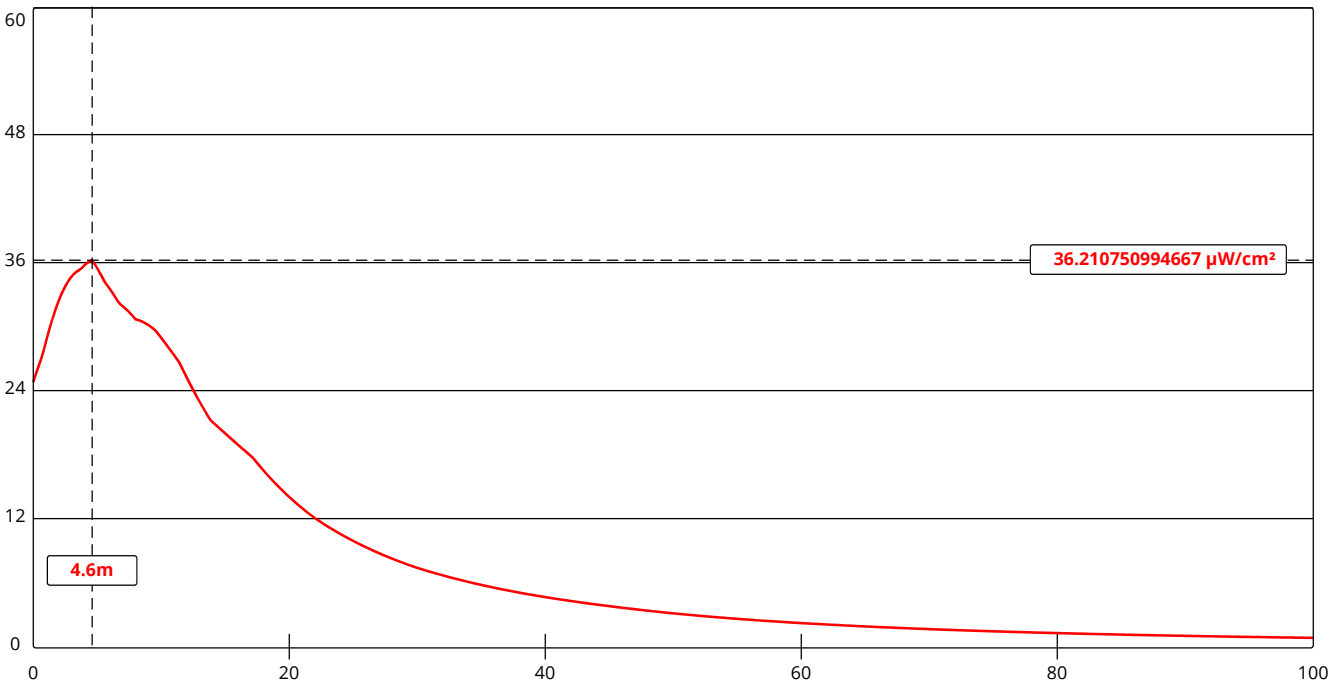
GTOWER - Guyed Structure Used for Communication Purposes

E-6 Directional Antenna Pattern

Azi	Field	dBk	kW
000	0.038	-34.425	0.000
010	0.040	-33.979	0.000
020	0.040	-33.979	0.000
030	0.040	-33.979	0.000
040	0.040	-33.979	0.000
050	0.040	-33.979	0.000
060	0.037	-34.657	0.000
070	0.032	-35.918	0.000
080	0.023	-38.786	0.000
090	0.014	-43.098	0.000
100	0.010	-46.021	0.000
110	0.010	-46.021	0.000
120	0.010	-46.021	0.000
130	0.012	-44.437	0.000
140	0.033	-35.650	0.000
150	0.118	-24.583	0.003
160	0.294	-16.654	0.022
170	0.505	-11.955	0.064
180	0.680	-9.370	0.116
190	0.846	-7.473	0.179
200	0.960	-6.375	0.230
208	1.000	-6.021	0.250
210	0.990	-6.108	0.245
220	0.924	-6.707	0.213
230	0.785	-8.123	0.154
240	0.610	-10.314	0.093
250	0.426	-13.432	0.045
260	0.217	-19.291	0.012
270	0.072	-28.874	0.001
280	0.018	-40.915	0.000
290	0.010	-46.021	0.000
300	0.010	-46.021	0.000
310	0.010	-46.021	0.000
320	0.011	-45.193	0.000
330	0.017	-41.412	0.000
340	0.027	-37.393	0.000
350	0.035	-35.139	0.000



FM Model



Channel Selection	Channel 256 (99.1 MHz)		
Antenna Type +	EPA Type 1: Ring-and-Stub or "Other"		
Height (m)	10	Distance (m)	100
ERP-H (W)	250	ERP-V (W)	0
Num of Elements	1	Element Spacing (λ)	1
Num of Points	500		