

**KOFM
EXPERIMENTAL STA APPLICATION**

**KOFM Requests Experimental Authority to
Operate With 10% (-10 dBc) Digital Power**

Applicant:

Williams Broadcasting LLC
1710 W. Willow
Enid, OK 73703

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Proposed facility parameters:

KOFM
269C3
Enid, OK
Facility # 25889

N 36-26-14.0
W 97-55-16.0
ASR # 1011452

Site elevation = 405.6 meters
Radiation Center AGL = 67.4 meters
Radiation Center AMSL = 473 meters

Antenna = Dielectric DCRH-6 full-wave spaced at 67.4 meters AGL.

RF contribution determined with FMMODEL = 25 kW ERP Analog
2.5 kW ERP Digital

TPO = 9.8 kW analog + 0.98 kW Digital = 10.780 kW

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Discussion:

KOFM on 276C3 (FCC facility #25889) requests experimental authority to utilize ten percent (10%) HD power amplification mode as proposed below:

(1) Maximum digital TPO = 9.8 kW Analog + 0.98 kW digital = 10.780 kW TPO

The undersign certifies that the requested digital power level complies with the requirements of MM Docket 99-325. An attached map shows that the KOFM 49.5 dBu (50:10) contour is well clear of the closest upper side-

band 1st adjacent channel station KJSR on 277C at Tulsa, OK and the closest lower side-band 1st adjacent channel station KHUT on 275C1 at Hutchinson, KS (see attached contour exhibit). Therefore, KOFM may run the full 10% or -10 dBc digital power.

Proponent Analog F(50,10) Field Strength at Protected Analog 60 dBu F(50,50) Contour	Maximum Permissible FM Digital ERP
51.2 dB μ and above	-14 dBc
50.7 dB μ - 51.1 dB μ	-13 dBc
50.3 dB μ - 50.6 dB μ	-12 dBc
49.6 dB μ - 50.2 dB μ	-11 dBc
49.5 dB μ or less	-10 dBc

RF Compliance:

KWGA analysis from OET 65 Figure 2 at the edge of the 2.5 meter fence included below.

KWGA Electric Field = 30 V/m for 1 kW or

77.1 V/m at the maximum DA field (731.26/ 284.85 @ 1 kW) = 77.1/614 V/m MAX = 12.6%

KWGA Magnetic field = 0.32 A.m for 1 kW or 0.8224 A/m for

worst case maximum lobe (731.26 mV/ 284.85 mV) = 0.8224 A/m/ 1.63A/m MAX = 50.5%

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KOFM(FM) worst case contribution from FMModel = 54.65 uWatts/cm²
/ 200 uWatts/cm² MAX public exposure limit = 27.3%

Combined worst case RF level = 77.8% of general public RF limit.

OET65 Figure 2:

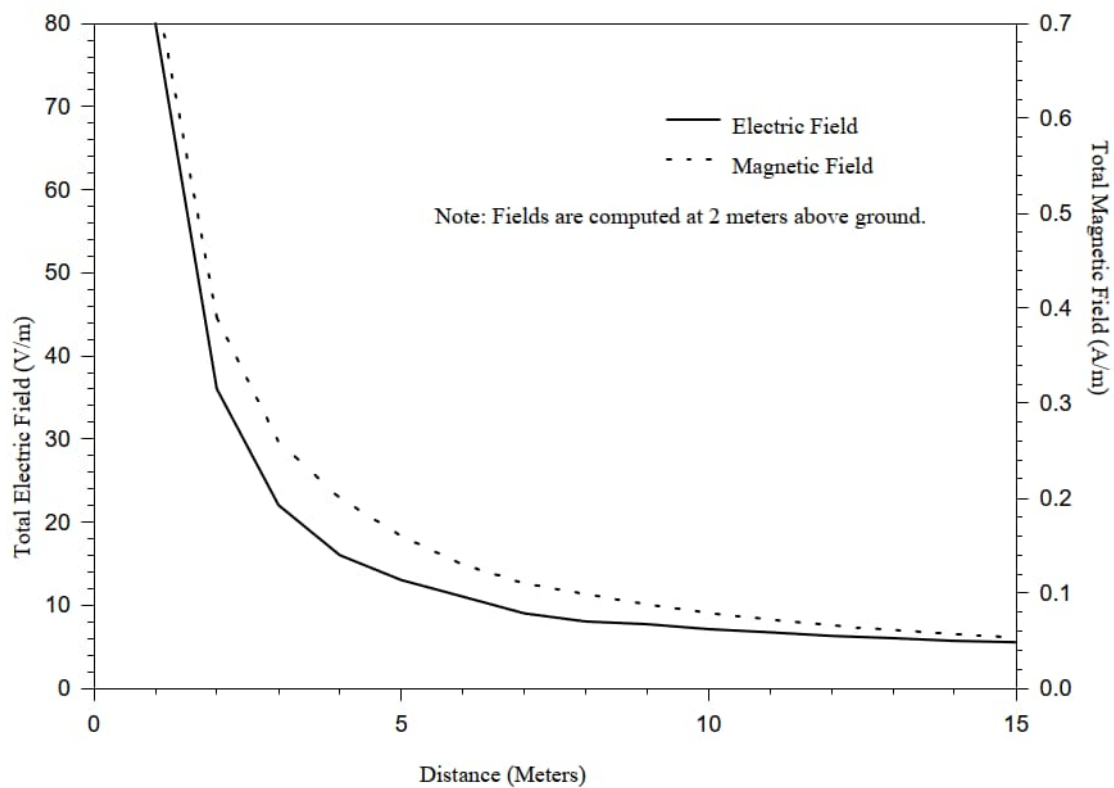
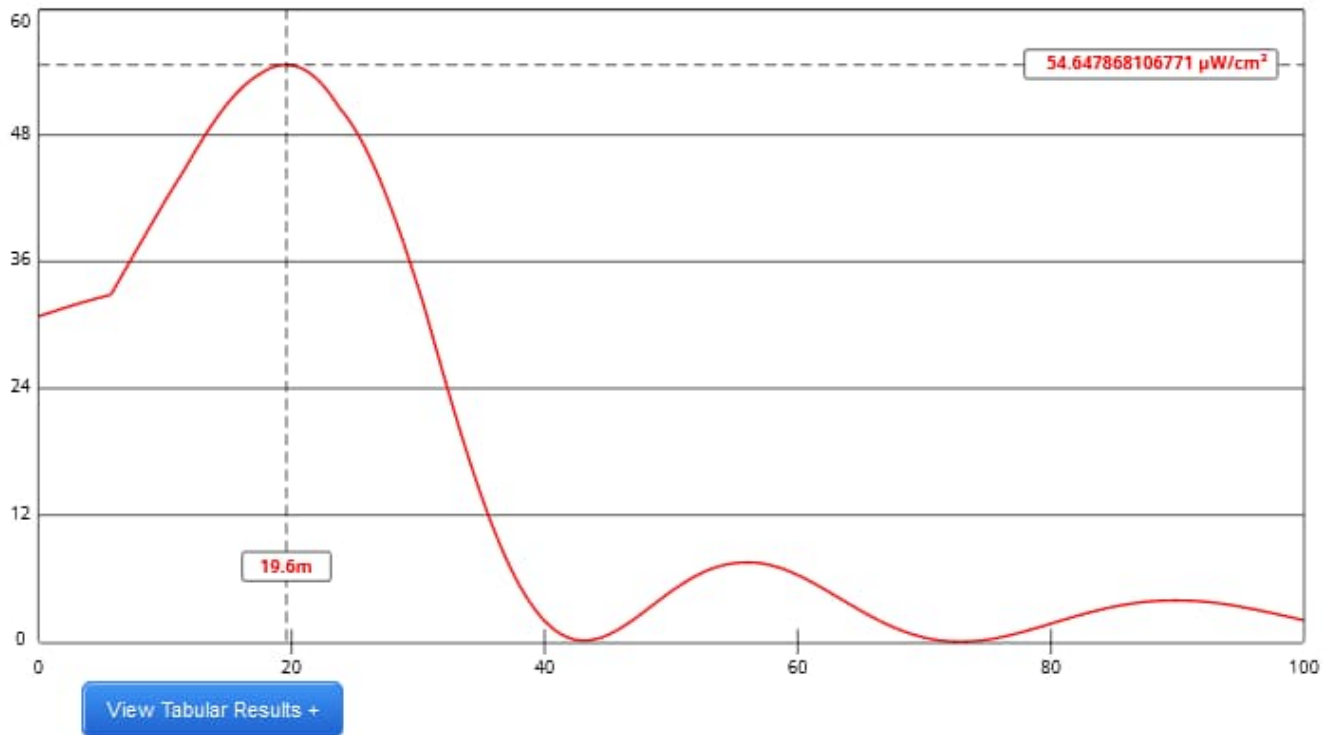


Figure 2. MININEC AM Model for 1 kW, 0.25 Wavelength Tower

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FMMModel Output:



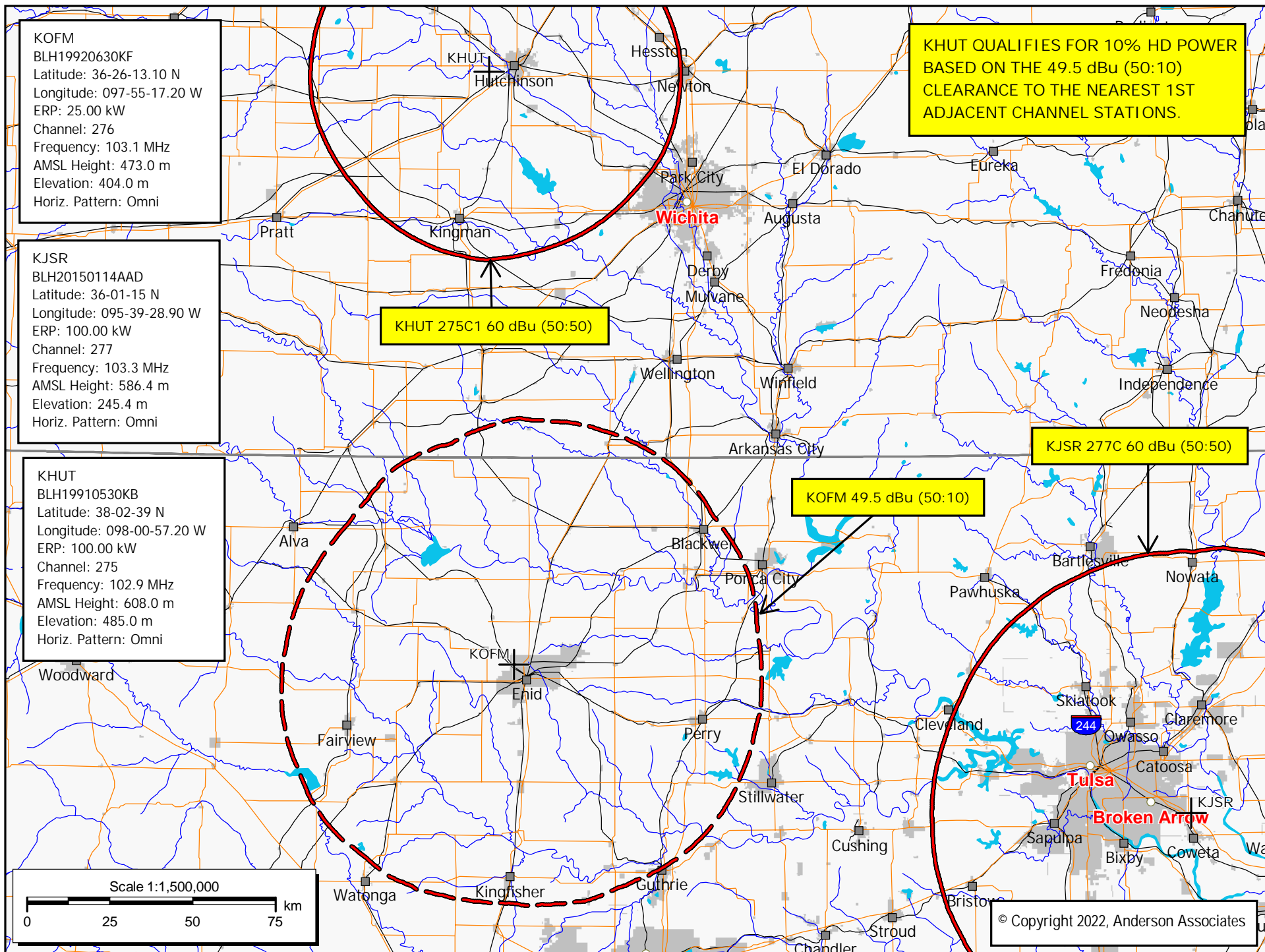
Channel Selection	Channel 276 (103.1 MHz) ▼		
Antenna Type +	EPA Type 4: Two-Piece Spiral ▼		
Height (m)	67.4	Distance (m)	100
ERP-H (W)	30000	ERP-V (W)	30000
Num of Elements	6	Element Spacing (?)	1
Num of Points	500	Apply	

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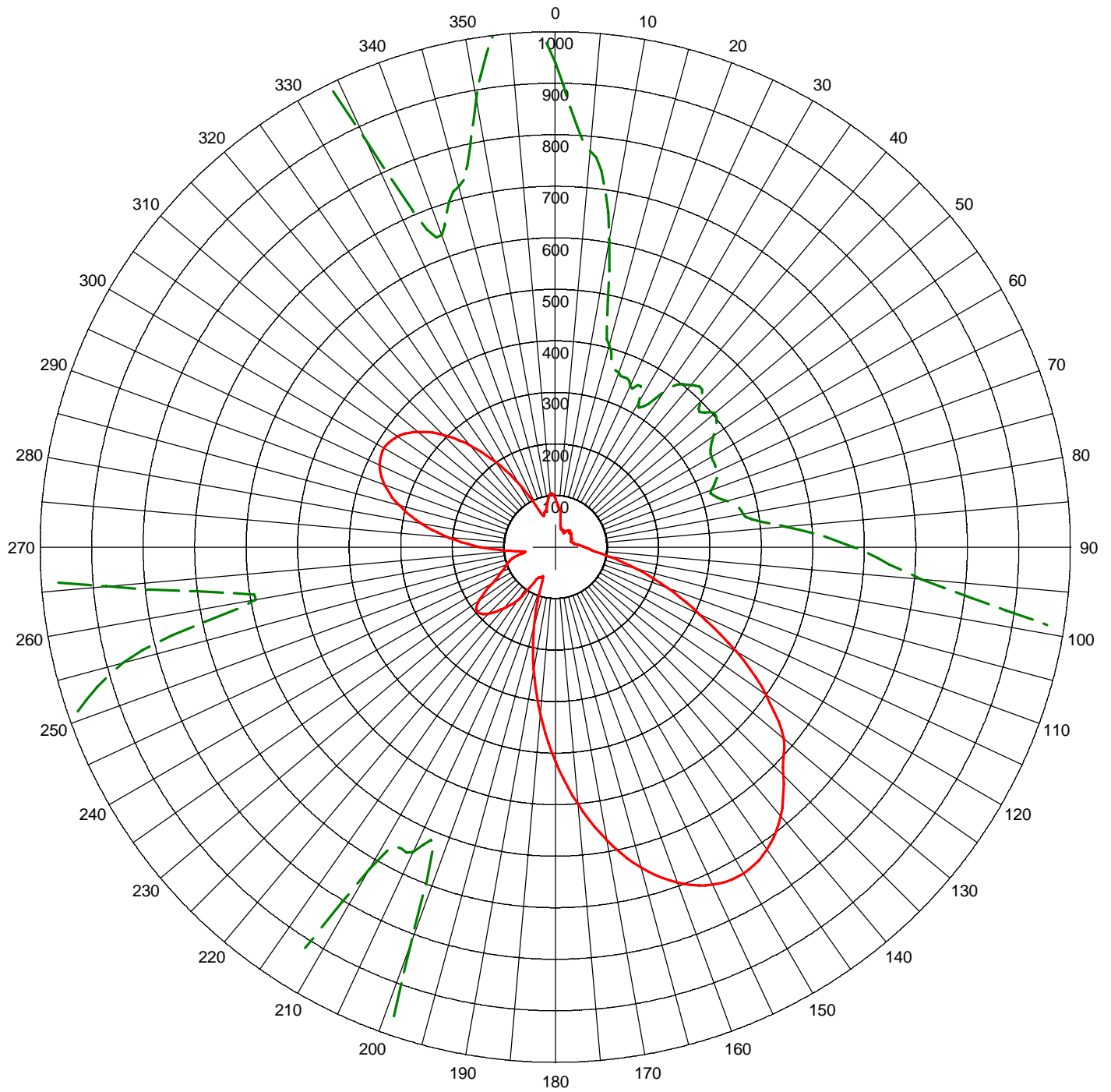
Charles M. Anderson 23-22-2022

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270-535-4432



AM Directional Pattern



Modified Standard Horizontal Plane Pattern

— Aug Pattern (mV/m@1km)
 - - - Aug Pattern X10

#	Field Ratio	Phase (deg)	Spacing (deg)	Orient (deg)	Height (deg)	Ref Switch	TL Switch	A (deg)	B (deg)	C (deg)	D (deg)
1	1.000	0.0	0.0	0.0	90.0	0	0	0.0	0.0	0.0	0.0
2	1.000	0.0	200.0	52.0	90.0	0	0	0.0	0.0	0.0	0.0
3	1.000	116.0	90.0	29.5	90.0	1	0	0.0	0.0	0.0	0.0
4	1.000	116.0	90.0	29.5	90.0	0	0	0.0	0.0	0.0	0.0

Call: KGWA
 Freq: 960 kHz
 ENID, OK, US
 Hours: U
 Lat: 36-26-13 N
 Lng: 097-55-16 W
 Power: 1.0 kW
 Theo RMS: 284.85 mV/m@1km
 @ 1.0 kW
 # of Augmentations: 21