

**WYZE  
Atlanta, GA  
1480 kHz  
#24145**

**APPLICATION FOR ENGINEERING STA**

**Purpose:**

Due to the loss of the licensed site, this STA is required to sustain operation.

**Technical data and exhibits for requested STA:**

WYZE  
1480 kHz  
Atlanta, GA  
Facility #24145  
0.010 kW - Day and Night

Maximum Efficiency - 313.8 mV/m/km/kW based on worst case assuming 90° tower and 90° 120 radial ground system. Clearly, the Isotron antenna will not achieve this level of efficiency.

It is noted that this antenna has been permitted in a number of AM STA grants most recently for WKPT at Kingsport, TN.

**Site: N 33-41-48.8 W084-28-25.0 (NAD 83)**

Antenna type:

Isotron model ISO225HP with coil loading to increase electrical efficiency to approximate a 90° tower.

The following exhibits are provided:

- E1 Vertical sketch
- E2 STA 0.5 mV/m Day contour is contained within the WYZE licensed 0.5 mV/m Day
- E3 Night interference calculations
- E4 TowerAir

**Night interference analysis:**

An AMPRO 2 night interference study was conducted using 10 Watts and a 30 degree radiator at 313.8 mV.m/km/kW efficiency in order to provide a worst case analysis. 10 Watts clears the closest station by 13.1 mV.m.

## ISOTRON 225 ANTENNA



## Description

The Isotron AM Antennas are the perfect AM broadcast antenna for all broadcast band AM transmitters from 300 to 1000 Watts! There are ten models available to cover the entire AM broadcast band. Order the model that covers the frequency you will be using. Antennas are factory tuned to your frequency but require minor assembly and adjustment by the customer. Requires NO GROUNDING SYSTEM so it's incredibly easy to install. Includes complete instructions for tuning and use. Antennas are built to order, Allow 1-2 weeks for delivery.

**SPECIFICATIONS:** Model 225 - Max Length 235" Approx Wt 11lbs

Wind Load (sq. feet): 1.69, Wind Rating: 85, Pattern: Omni, Connector: SO-239

The Isotron AM Antenna design is an electrical copy of a 1/2 wave dipole. Radiation patterns and formulas are not necessary for analyzing the tuning characteristics.

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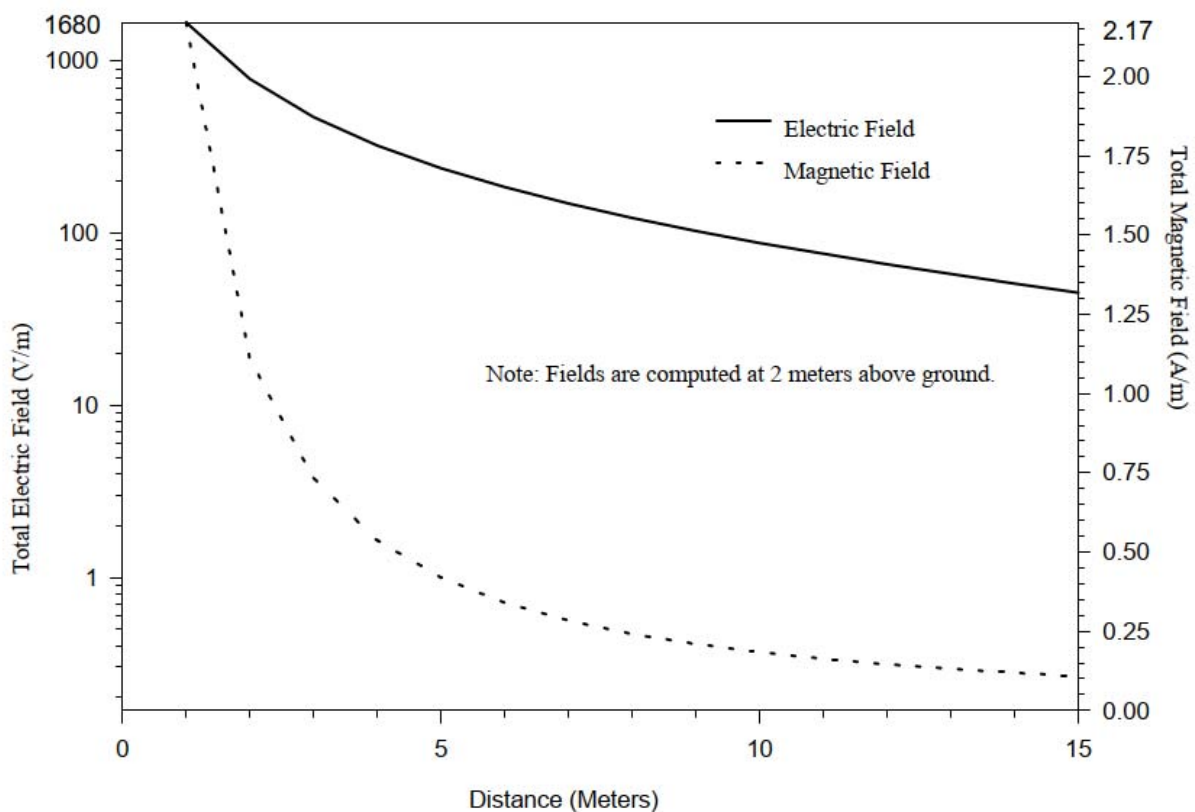
**RF determination:**

The 0.010 kW STA facility is located at a restricted site (see entrance below). Therefore, the general population will not be exposed to RF. In any event, a calculation of the RF levels at 1 meter using a worst case assumption of a  $0.1\lambda$  tower, produces electrical and magnetic field well below the general population limits.

**V/m at 1.0 meters =  $1680 \times 0.010 \text{ kW}^2 / 614 \text{ V/m maximum} = 0.17 \text{ V/m}$  or 0.03%**

**A/m at 1.0 meters =  $2.17 \times 0.010 \text{ kW}^2 / 1.63 = 0.00022 \text{ A/m}$  or 0.013%.**

**The proposed STA complies with Commission RF radiation limits for general public exposure.**



**Figure 1. MININEC AM Model for 1 kW, 0.10 Wavelength Tower**

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### (B) Limits for General Population/Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f <sup>2</sup> )*	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	f/1500	30
1500-100,000	--	--	1.0	30

f = frequency in MHz

\*Plane-wave equivalent power density



# Anderson Associates

Broadcast Engineering Consultants

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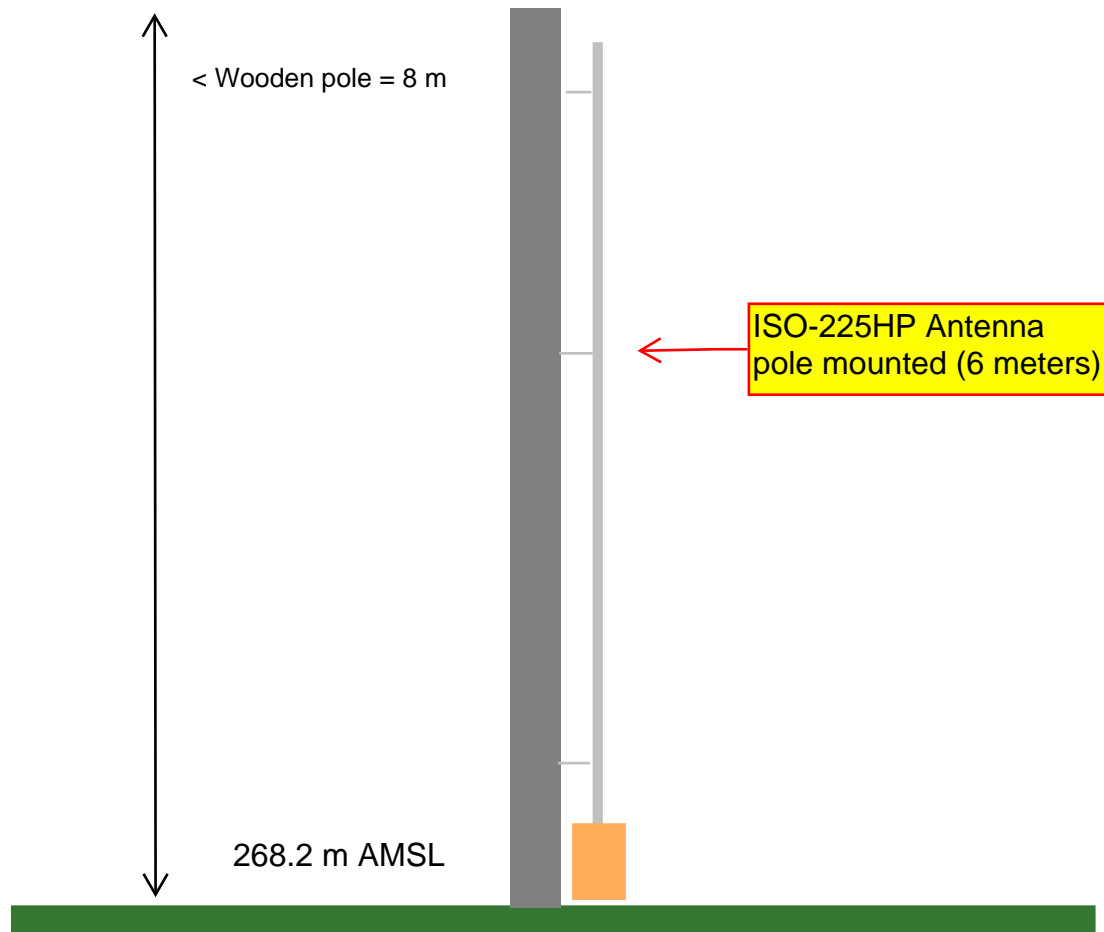
If any additional technical information is required please contact the undersigned.



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Charles M. Anderson 3-24-2024  
270-535-4432  
[cmanderson43@yahoo.com](mailto:cmanderson43@yahoo.com)

## Vertical Sketch



Pole mounted Isotron ISO-225HP AM antenna on 1480 kHz  
at 10 Watts. Maximum efficiency = 313.8 mV/m/km/kW.  
8 meter pole passes TowerAir (attached).





# Night Allocation Protection Report

Call: WYZE-STA  
 Freq: 1480 kHz  
 ATLANTA, GA, US  
 Hours: D  
 Lat: 33-41-48.80 N [NAD83]  
 Lng: 084-28-25 W  
 Power: 0.01 kW  
 Theo RMS: 313.80 mV/m @ 1km @ 1kW

#	Field Ratio	Phase (deg)	Spacing (deg)	Orient (deg)	Height (deg)	Ref Swch	TL Swch	A (deg)	B (deg)	C (deg)	D (deg)
1	1.000	0.0	0.0	0.0	30.0	0	0	0.0	0.0	0.0	0.0

Call Letters	Ct St City	SWFF (100uV/m)	Req Prot (mV/m)	Permis (mV/m)	Cur Rad (mV/m)	Margin (mV/m)
WGFY	US NC CHARLOTTE	170.17	1.446	42.47	29.37	13.10
50% = 4.749, 25% = 5.782; WHBC=3.45 WDJ0=3.26 WMDD=2.24 WJFG=1.91 WWBG=1.48						
WDJO	US OH CINCINNATI	89.48	1.211	67.66	30.69	36.97
50% = 3.624, 25% = 4.991; WHBC=2.31 WSDS=2.20 WRSW=1.71 WJFG=1.59 WSLI=1.56 WMDD=1.41 WLMV=1.32 WKYV=1.27 WMOA=1.21						
WABF	US AL MOBILE	130.20	2.050	78.72	30.14	48.58
50% = 7.044, 25% = 8.331; KLVL=4.46 KNGO=3.86 KCZZ=3.85 WDJ0=3.01 KQAM=2.56 WMDD=2.05						
WHBC	US OH CANTON	56.47	1.103	97.70	31.06	66.64
50% = 2.961, 25% = 4.413; WJFG=1.52 WLOA=1.50 WSDS=1.49 WMDD=1.42 WBKE=1.34 WNTJ=1.29 WABJ=1.21 WMOA=1.21 WGFY=1.21 WSGB=1.21 WSWW=1.17						
WTOX	US VA GLEN ALLEN	65.33	1.292	98.90	30.98	67.91
50% = 4.076, 25% = 5.262; WZRC=2.51 WHBC=2.45 WMDD=2.08 WJFG=1.82 WDAS=1.52 WDJ0=1.43 WGFY=1.32 WLOE=1.29						
WJFG	US PA LATROBE	53.26	1.203	112.95	31.09	81.85
50% = 3.217, 25% = 4.947; 1480CKDX/ =2.15 WZRC=1.80 WMDD=1.57 WDJ0=1.52 WSDS=1.42 WDAS=1.41 WMOA=1.28 WOHI=1.28 WSGB=1.26 WHBC=1.22 WNDA=1.20						
WRSW	US IN WARSAW	54.26	1.350	124.38	31.08	93.30
50% = 4.394, 25% = 5.515; WSLI=3.02 WLMV=2.33 WHBC=2.18 WDJ0=1.94 WMBD=1.84 WSDS=1.46 WABJ=1.35						
WPWC	US VA DUMFRIES-TRIANG	56.26	1.441	128.06	31.08	96.98
50% = 4.317, 25% = 5.764; WZRC=3.41 WJFG=2.64 WHBC=2.09 WGFY=2.07 WMDD=1.93 WDAS=1.48						
WDAS	US PA PHILADELPHIA	36.51	1.113	152.44	31.24	121.20
50% = 3.154, 25% = 4.452; WZRC=2.05 WMDD=1.82 WHBC=1.56 WSAR=1.43 WDLIC=1.38 WSAN=1.33 WJFG=1.23 WKNY=1.16 WNDA=1.15						



# TOWAIR Determination Results

A routine check of the coordinates, heights, and structure type you provided indicates that this structure does not require registration.

## \*\*\* 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

**PASS SLOPE(100:1): NO FAA REQ-RWY MORE THAN 10499 MTRS & 6168.84 MTRS (6.16880 KM) AWAY**

	C/ Type R	Latitude	Longitude	Name	Address	Lowest Elevation (m)	Runway Length (m)
AIRP	R	33-38-58.00N	084-26-20.00W	HARTSFIELD - JACKSON ATLANTA INTL	FULTON ATLANTA, GA	297.9	3776.5

**PASS SLOPE(100:1): NO FAA REQ-RWY MORE THAN 10499 MTRS & 6458.71 MTRS (6.45870 KM) AWAY**

	C/ Type R	Latitude	Longitude	Name	Address	Lowest Elevation (m)	Runway Length (m)
AIRP	R	33-38-48.00N	084-26-18.00W	HARTSFIELD - JACKSON ATLANTA INTL	FULTON ATLANTA, GA	297.9	3776.5

**PASS SLOPE(100:1): NO FAA REQ-RWY MORE THAN 10499 MTRS & 7289.90 MTRS (7.28990 KM) AWAY**

	C/ Type R	Latitude	Longitude	Name	Address	Lowest Elevation (m)	Runway Length (m)
AIRP	R	33-38-5.00N	084-26-53.00W	HARTSFIELD - JACKSON ATLANTA INTL	FULTON ATLANTA, GA	297.9	3776.5

**PASS SLOPE(100:1): NO FAA REQ-RWY MORE THAN 10499 MTRS & 7581.89 MTRS (7.58190 KM) AWAY**

	C/ Type R	Latitude	Longitude	Name	Address	Lowest Elevation (m)	Runway Length (m)
AIRP	R	33-37-55.00N	084-26-53.00W	HARTSFIELD - JACKSON ATLANTA INTL	FULTON ATLANTA, GA	297.9	3776.5

PASS SLOPE(25:1): NO FAA REQ-HELIPORT 4227.88 MTRS (4.2279 KM) AWAY

C/ Type R		Latitude	Longitude	Name	Address	Lowest Elevation (m)	Runway Length (m)
HELI	B	33-42-45.00N	084-25-50.00W	FORT MCPHERSON	FULTON FORT MCPHERSON, GA	320.6	121.90000000000001

Your Specifications

NAD83 Coordinates

Latitude	33-41-48.8 north
Longitude	084-28-25.0 west

Measurements (Meters)

Overall Structure Height (AGL)	8
Support Structure Height (AGL)	0
Site Elevation (AMSL)	268.2

Structure Type

POLE - Any type of Pole

CLOSE WINDOW