

## **WWKS(FM) Minor Modification**

This technical report is submitted for a minor modification application to WWKS(FM) 267B at Cruz Bay, V.I., FCC file no. BLH-19970310KC. A change to class A with decrease in ERP is submitted.

### **WWKS(FM) Modification Analysis:**

An spacing study in exhibit E-1 shows the WWKS(FM) modification to channel 267A is short-spaced at its current site at coordinates:

**18 20 30N 64 43 59W NAD27.**

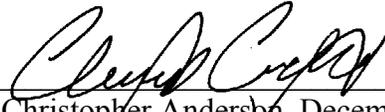
A TOWAIR determination shows the 60 meter tower does not require registration (exhibit E-2). A Shively model 6813 six bay, full wavelength-spaced, nondirectional antenna will be mounted at a COR AGL of 43 meters, 415 meters AMSL, 385 meters HAAT (exhibit E-3) and will operate at 2.0 kW ERP. A 70 dBu contour showing coverage of the Cruz Bay, V.I. community of license is included in Exhibit E-4.

### **RF Exposure Calculation:**

The RF contribution of the WWKS(FM) modification was calculated using the FMModel program (exhibit E-5). The resulting value is  $47.0 \mu\text{W}/\text{cm}^2$  at a distance of 7.2 meters from the base of the tower, which is below the  $1000 \mu\text{W}/\text{cm}^2$  maximum permissible for controlled exposure.

**Conclusion:**

It is submitted the minor modification application for WWKS(FM) is in full compliance with the Commission rules and policies.



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# E-1 WWKS(FM) 267A Spacing Study

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REFERENCE                                     DISPLAY DATES
18 20 30.0 N.                                CLASS = A      DATA 12-12-16
64 43 59.0 W.                                PR & VI Spacings to 3rd Adj. SEARCH 12-12-16
----- Channel 267 - 101.3 MHz -----

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Call	Channel	Location	Azi	Dist	FCC	Margin
WWKS	LIC 267B	Cruz Bay	VI 0.0	0.00	177.5	-177.5
NEW %	265B	Chalwell	BV 48.7	13.70	68.5	-54.8 (1)
WEVI %	CP 267A	Frederiksted	VI 189.4	66.66	114.5	-47.8 (2)
WNVE	CP -Z 268A	Ceiba	PR 266.2	99.31	71.5	27.8

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Reference station has protected zone issue: Arecibo  
 % = Station Fails minimum 73.215 spacings  
 All separation margins include rounding

- (1) Existing short-spacing is decreased with declass.
- (2) Change to channel 267A depends on WWKS change to channel 271 and program test. That change will be implemented once this declass to 267A is implemented.

## 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	18-20-22.8 north
Longitude	064-43-57.5 west

##### Measurements (Meters)

Overall Structure Height (AGL)	60
Support Structure Height (AGL)	0
Site Elevation (AMSL)	372

##### Structure Type

GTOWER - Guyed Structure Used for Communication Purposes

### E-3 WWKS(FM) 267A HAAT Calculation

N. Lat. = 182030.0 W. Lng. = 644359.0  
HAAT and Distance to Contour,  
3-16 km, 51 pts Method - USGS 03 SEC

Azi.	AV EL	HAAT	ERP kW	60-F(50-50)
000	13.0	402.0	2.0000	41.69
045	147.5	267.5	2.0000	34.74
090	7.9	407.1	2.0000	41.92
135	17.1	397.9	2.0000	41.50
180	0.0	415.0	2.0000	42.29
225	2.9	412.1	2.0000	42.15
270	53.2	361.8	2.0000	39.86
315	0.0	415.0	2.0000	42.29

Ave El= 30.22 M HAAT= 384.78 M AMSL= 415.0 M

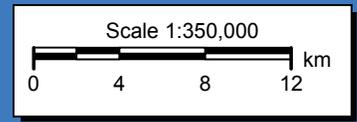
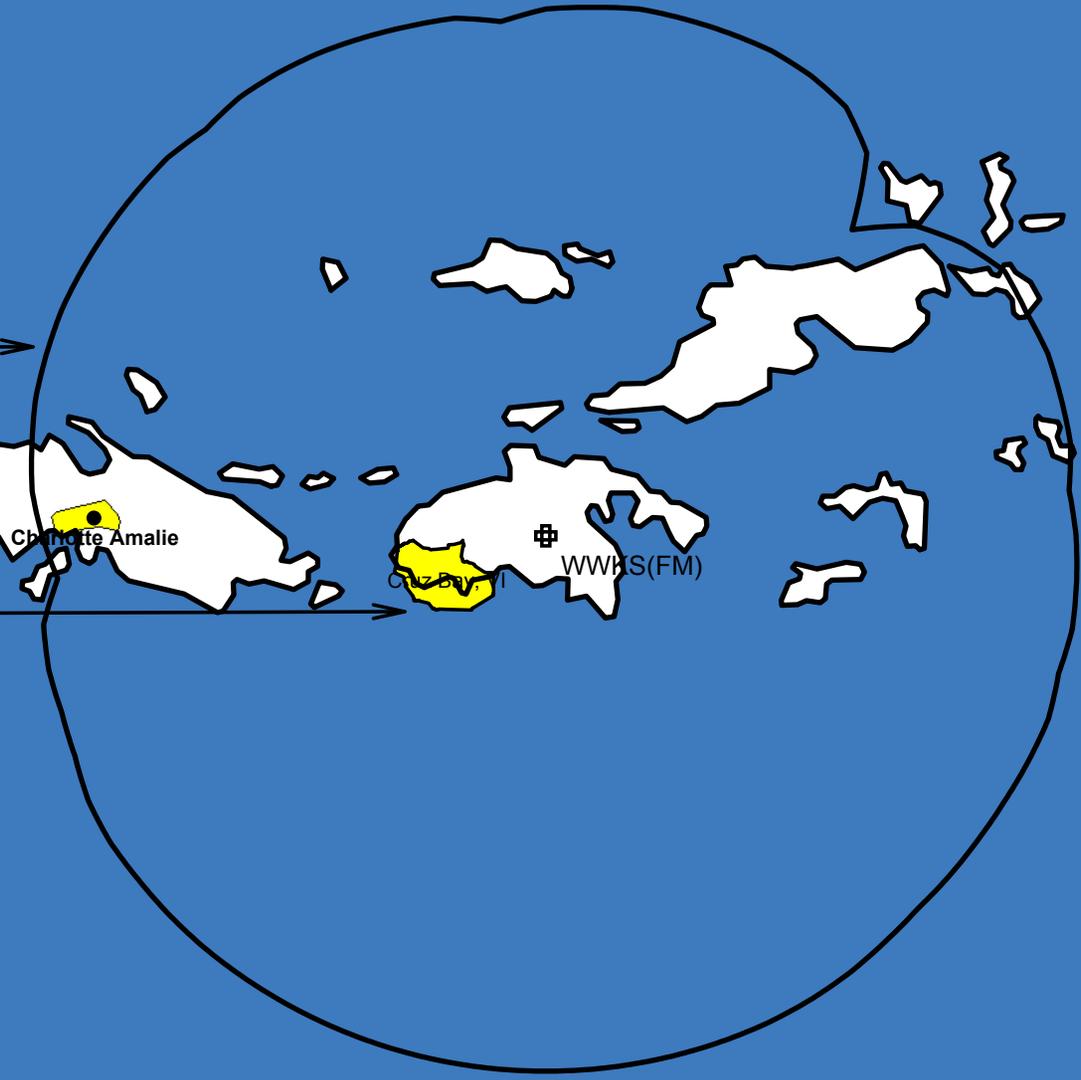
# E-4 WWKS(FM) 267A 70 dBu Contour Plot

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**WWKS(FM)**  
BLH19970310KC  
Latitude: 18-20-30 N  
Longitude: 064-43-59 W  
ERP: 2.00 kW  
Channel: 267  
Frequency: 101.3 MHz  
AMSL Height: 415.0 m  
Elevation: 372.0 m  
Horiz. Pattern: Omni  
Vert. Pattern: No  
Prop Model: None

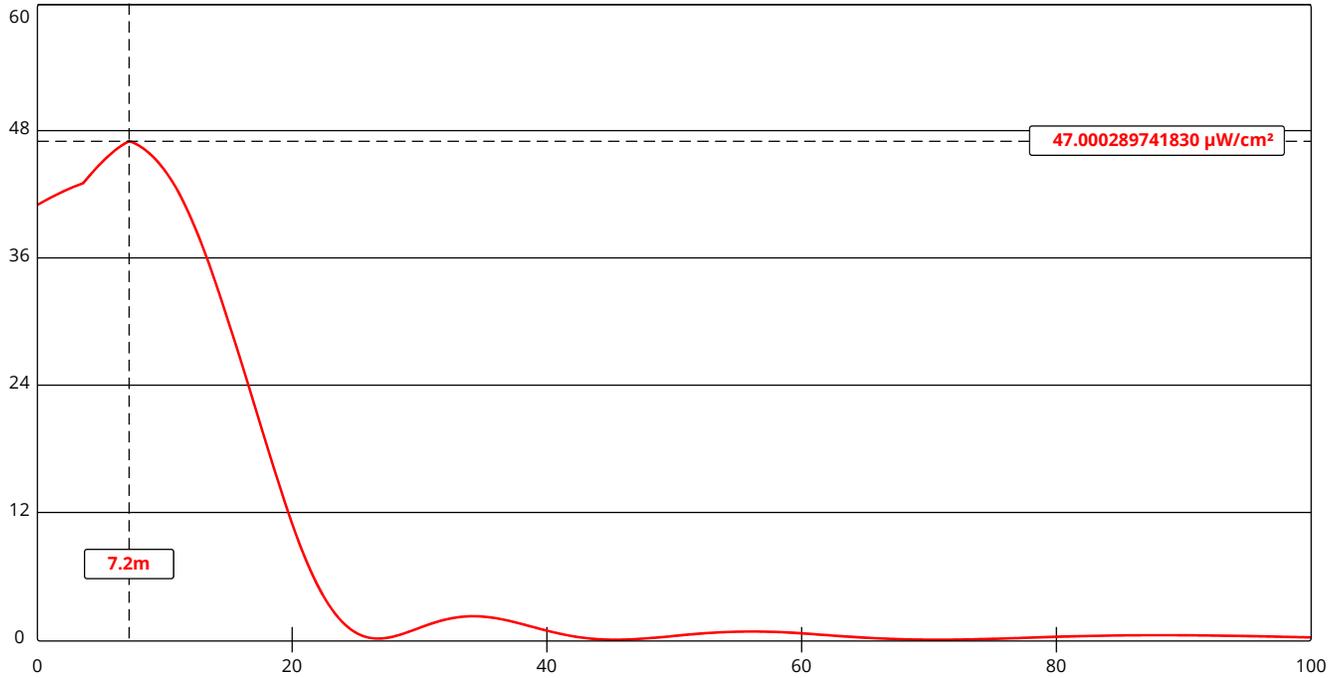
WWKS(FM) 267A  
70 dBu F(50-50) Contour

Cruz Bay, V.I.  
2000 U.S. Census Boundary



# E-5 WWKS(FM) RF Calculation

## FM Model



Channel Selection	Channel 267 (101.3 MHz)		
<u>Antenna Type</u> +	EPA Type 1: Ring-and-Stub or "Other"		
Height (m)	43	Distance (m)	100
ERP-H (W)	2000	ERP-V (W)	2000
Num of Elements	6	Element Spacing (λ)	1
Num of Points	500		

This level is well below the permissible for general public exposure and represents a substantial decrease from the current level at 50 kW using the same antenna.