

Reason for STA Request

Ross Communications, Ltd. (“Licensee”), licensee of station WRCX-LD, Dayton, Ohio (Facility ID No. 69535) (“WRCX”), hereby requests Legal Special Temporary Authority (“STA”) to extend the deadline for submission of invoices in connection with the FCC’s repack project. In light of difficulties Licensee has experienced with its current VHF channel after participation in the FCC’s repack, WRCX plans to evaluate its options with regard to a potential move to a UHF channel and seek FCC reimbursement for this change. Accordingly, Licensee requests that the FCC grant this STA allowing WRCX to submit repack invoices for reimbursement until March 6, 2023, or for the maximum period allowable.

Pursuant to the FCC’s repack project, WRCX was assigned VHF Channel 9 to replace its UHF Channel 40, which was subsequently removed from the table of allocations for UHF broadcasting. WRCX moved its operations to the new channel by acquiring and installing the appropriate technical facilities to enable its continued operations on the new channel. However, the station’s performance on Channel 9 has been predictably unsatisfactory. Transitioning from a UHF to a VHF channel poses substantial risks of lower quality coverage and service as a result of the differing propagation characteristics attendant to UHF and VHF spectrum, and Licensee has been experiencing reception difficulties typical of VHF channels since its transition to Channel 9.

In order to determine the technical limitations of the new channel, Licensee undertook a detailed market signal strength analysis via drone, the results of which indicated that an appropriate signal level is present in the required coverage area and that there are no issues with station operations. Because the signal strength was adequate and the station was operating well, Licensee came to the conclusion that Channel 9 does not penetrate structures with the same efficiency as UHF frequencies. *See* Exhibits A (full report from the signal strength analysis), B (raw data provided by QCommunications, LLC from the signal strength analysis), and C (contour map of WRCX-LD’s Channel 9 operations with test points). In fact, the Commission has recognized that environmental noise issues may affect reception for VHF stations in certain situations¹ and has responded by granting waivers to allow such stations, including channels 7-13, to exceed their maximum power levels.² Thus, the Commission is well aware of the potential for interference of the kind WRCX is experiencing and should not be surprised to discover that Licensee has struggled to provide quality service since its transition to a VHF channel. Thus, while the station’s equipment is operating within its authorized post-repack parameters, its customers are not able to receive a quality signal on its displacement channel. A channel change is required.

Despite Licensee’s diligent efforts to assess its channel change options after the completion of this analysis, its progress has been hindered by disruptions caused by the COVID-

¹ *Assessment and Collection of Regulatory Fees for Fiscal Year 2020*, MD Docket Nos. 20-105, 19-105, Report and Order and Notice of Proposed Rulemaking, 35 FCC Rcd 4976, 4997, ¶ 52 (2020).

² *Id.*

19 pandemic. The inability of engineers to perform site visits, the lack of availability of tower crews, and the interruption of supply chains have all inhibited Licensee's attempts to obtain quotes of the work necessary to complete this channel change and complete the requisite filings.

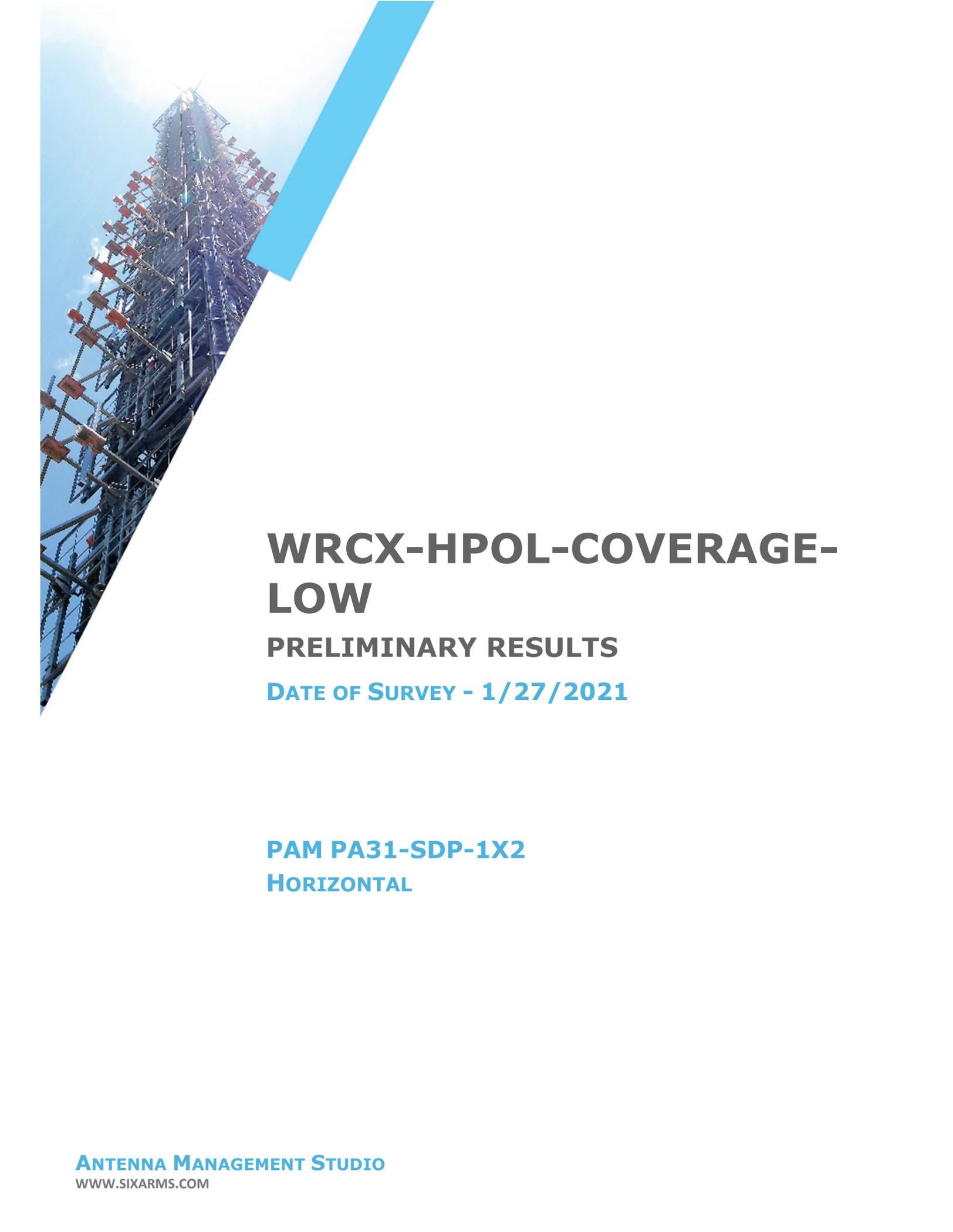
Since the change in channel will not be complete by the deadline of September 6, 2022 and receipts for work done in the process of this channel change will not be available at that point, Licensee requests permission to submit reimbursable invoices until March 6, 2023. WRCX must still find an appropriate UHF channel to which it can move, assess what interference issues may arise, and modify the station's current technical plant to operate from the new channel. *See* Exhibit D (proposed power budget for a replacement VHF channel). Licensee estimates that this process is likely to take less than six months and will be completed by the requested extended deadline of March 6, 2023. However, until these steps are complete, WRCX will not have complete receipts to submit for reimbursement. While the numerous factors at play in this change make cost estimates difficult to ascertain, Licensee anticipates that the total costs will be approximately \$255,000.

Because the FCC must stop reimbursing repack expenses by July 3, 2023 in accordance with RAY BAUM'S Act.³ Licensee requests only that it be allowed to submit repack invoices through March of 2023, rather than throughout the three-year period of its proposed modification application if granted. A six-month STA would provide Licensee the opportunity to resolve its interference problems without jeopardizing the Commission's compliance with its July statutory deadline.

In sum, Licensee respectfully requests grant of this STA so that it may submit and receive reimbursement of the costs incurred to change from its assigned post-repack channel and improve its service quality to the public.

³ 47 U.S.C. § 1452(j).

EXHIBIT A



WRCX-HPOL-COVERAGE- LOW

PRELIMINARY RESULTS

DATE OF SURVEY - 1/27/2021

**PAM PA31-SDP-1X2
HORIZONTAL**

1/ SITE

NAME WRCX
LAT 39.724444 °d
LONG -84.255000 °d
STRUCTURE HEIGHT 351.4 m
BASE HEIGHT 553.1 m
NOTES
STRUCTURE TYPE Tower

2/ ANTENNA

NAME PAM PA31-SDP-1X2
LAT 39.724444 °d
LONG -84.255000 °d
AGL 280 m
APERTURE 1.2 m
FEED TYPE

3/ SERVICES

	WRCX	WRGT	WLWD
POLARITY	Horizontal	Mixed	Horizontal
MODULATION	DVBT	DVBT	DVBT
FREQUENCY (MHZ)	189	605	509
BANDWIDTH (KHZ)	6000	6000	6000
DESIGNED ERP	0	0	0
ACTUAL TX POWER	0	0	0
	WKEF	WHIO	W22DE
POLARITY	Mixed	Horizontal	Mixed
MODULATION	DVBT	DVBT	DVBT
FREQUENCY (MHZ)	593	587	521
BANDWIDTH (KHZ)	6000	6000	6000
DESIGNED ERP	0	0	0
ACTUAL TX POWER	0	0	0
	WPTD		
POLARITY	Mixed		
MODULATION	DVBT		
FREQUENCY (MHZ)	599		
BANDWIDTH (KHZ)	6000		
DESIGNED ERP	0		
ACTUAL TX POWER	0		

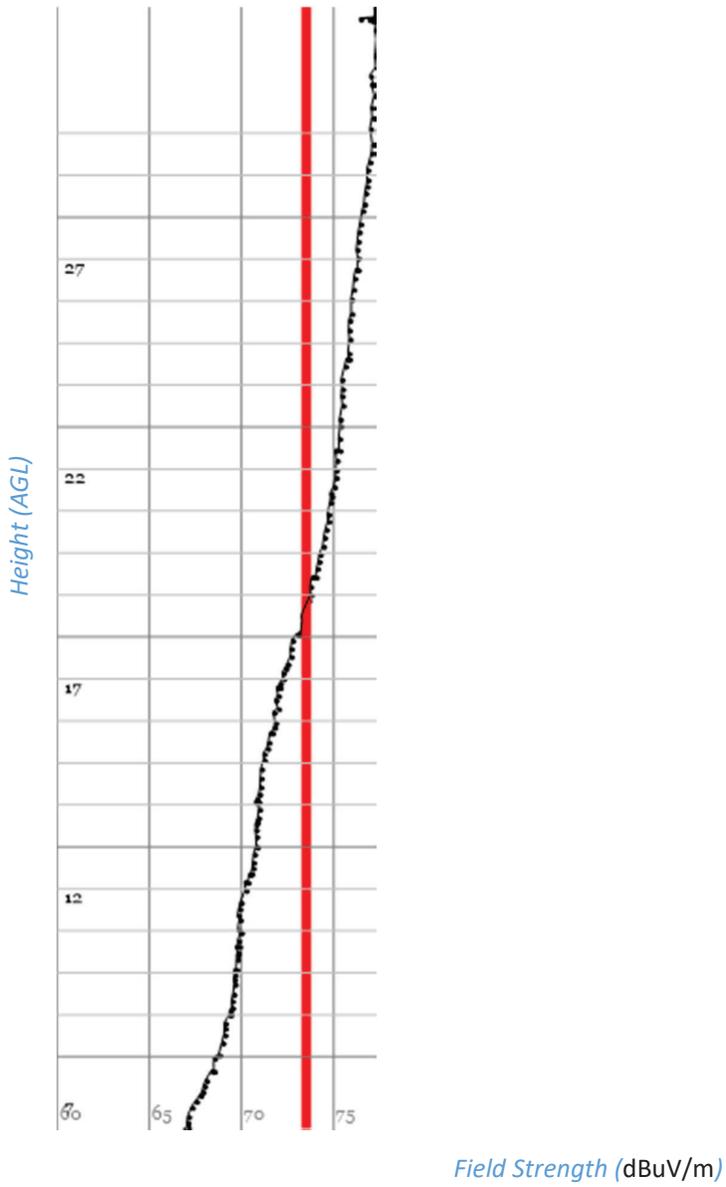
4/ RESULTS

DYNAMIC ELEVATION – FACE A TP20

DISTANCE FROM ANTENNA 24746.6 m, DEPRESSION ANGLE 1.68 °,
AZIMUTH FROM SITE 145.94 °

WRCX

73.52 dBuV/m

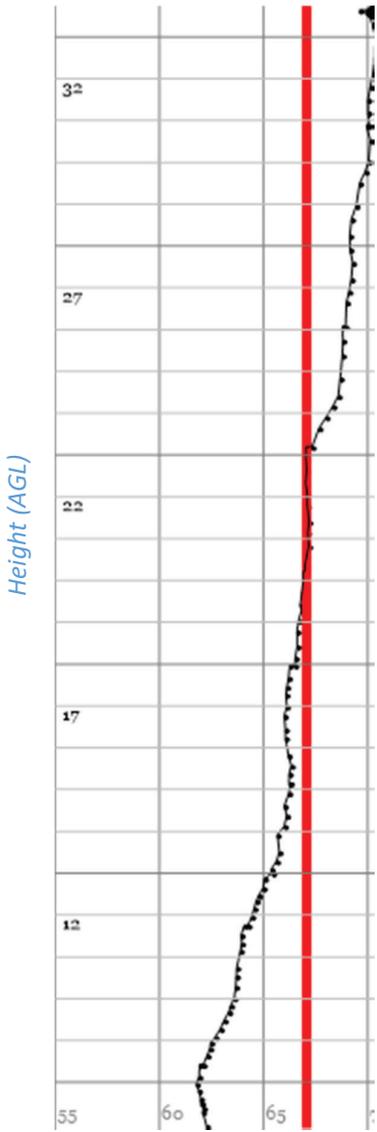


DYNAMIC ELEVATION – FACE A TP19

DISTANCE FROM ANTENNA 52671.3 m, DEPRESSION ANGLE 0.75 °,
AZIMUTH FROM SITE 140.34 °

WRCX

67.07 dBuV/m



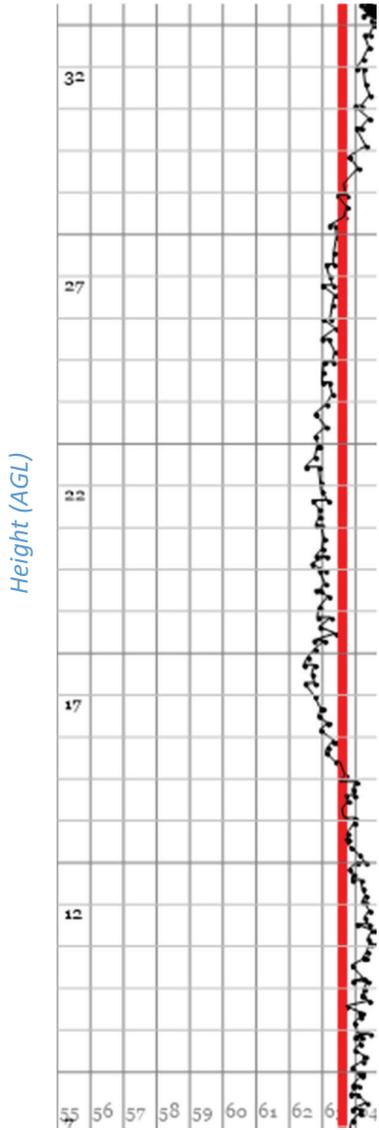
Field Strength (dBuV/m)

DYNAMIC ELEVATION – FACE A TP18

DISTANCE FROM ANTENNA 59096.7 m, DEPRESSION ANGLE 0.75 °,
AZIMUTH FROM SITE 180.47 °

WRCX

63.60 dBuV/m



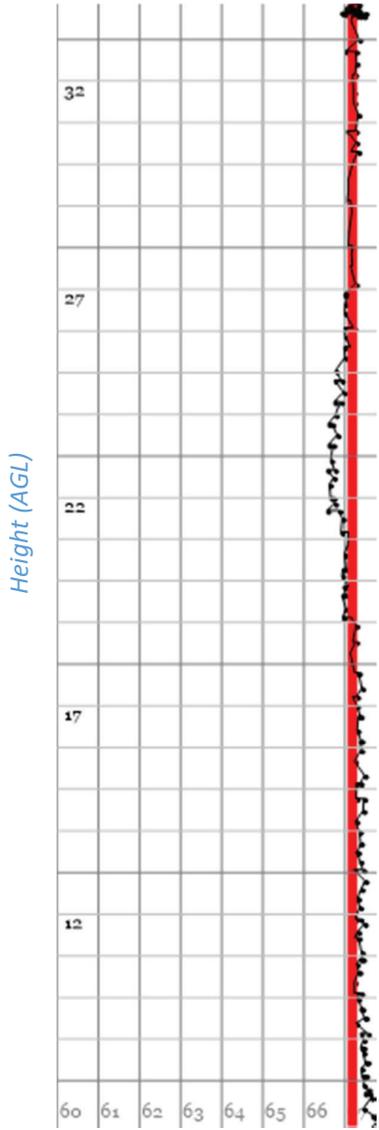
Field Strength (dBuV/m)

DYNAMIC ELEVATION – FACE A TP17

DISTANCE FROM ANTENNA 70877.0 m, DEPRESSION ANGLE 0.63 °,
AZIMUTH FROM SITE 197.10 °

WRCX

67.18 dBuV/m



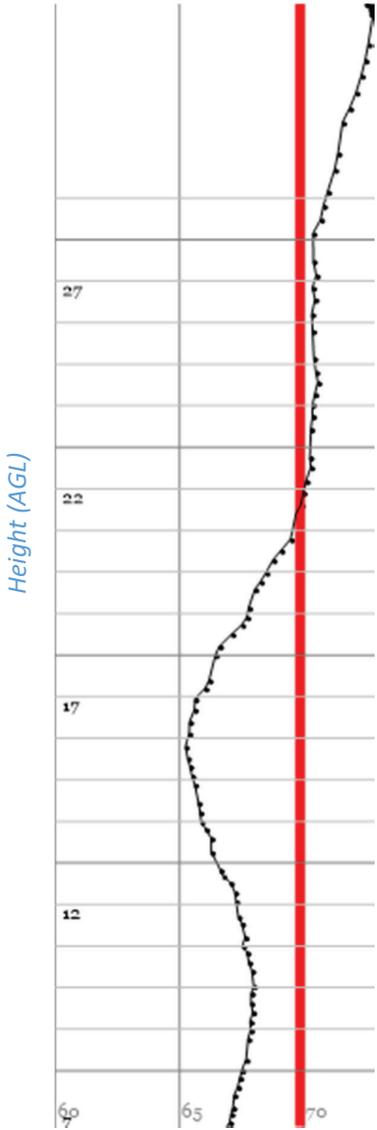
Field Strength (dBuV/m)

DYNAMIC ELEVATION – FACE A TP16

DISTANCE FROM ANTENNA 41888.3 m, DEPRESSION ANGLE 1.05 °,
AZIMUTH FROM SITE 185.23 °

WRCX

69.85 dBuV/m



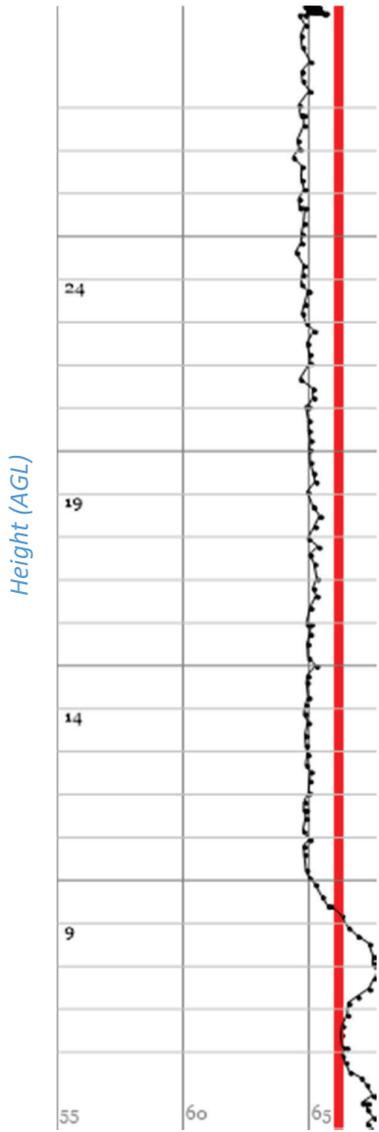
Field Strength (dBuV/m)

DYNAMIC ELEVATION – FACE A TP15

DISTANCE FROM ANTENNA 55048.0 m, DEPRESSION ANGLE 0.89 °,
AZIMUTH FROM SITE 216.48 °

WRCX

66.18 dBuV/m



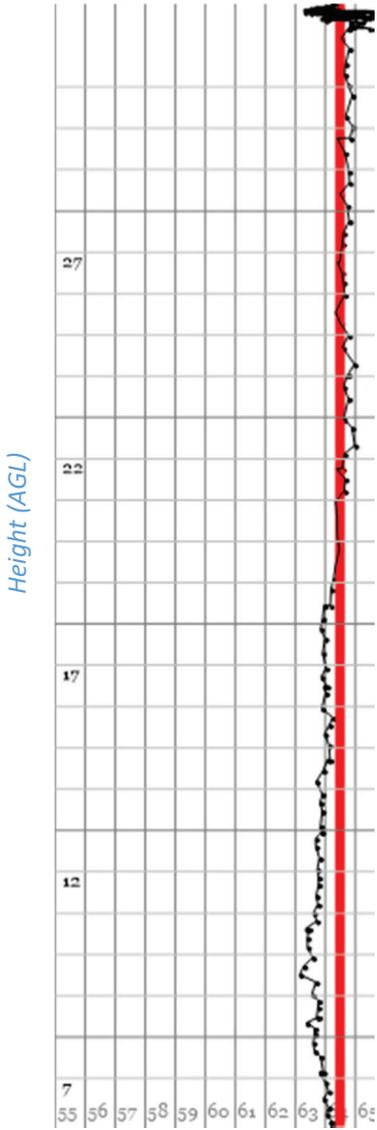
Field Strength (dBuV/m)

DYNAMIC ELEVATION – FACE A TP 14

DISTANCE FROM ANTENNA 49143.4 m, DEPRESSION ANGLE 0.86 °,
AZIMUTH FROM SITE 240.61 °

WRCX

64.49 dBuV/m



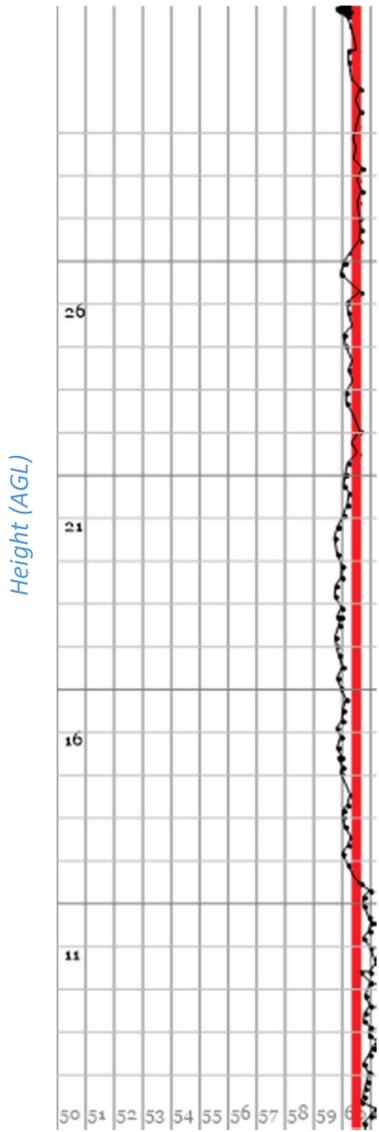
Field Strength (dBuV/m)

DYNAMIC ELEVATION – FACE A TP13

DISTANCE FROM ANTENNA 57798.1 m, DEPRESSION ANGLE 0.71 °,
AZIMUTH FROM SITE 259.62 °

WRCX

60.50 dBuV/m



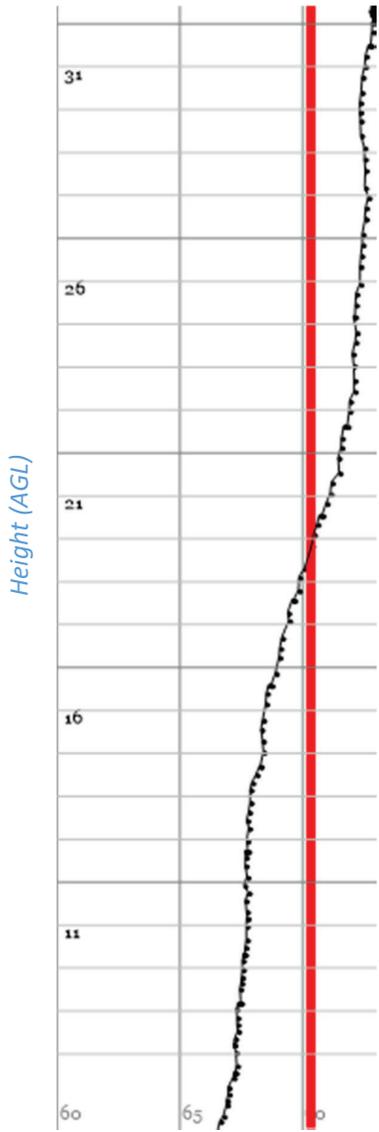
Field Strength (dBuV/m)

DYNAMIC ELEVATION – FACE A TP12

DISTANCE FROM ANTENNA 31512.6 m, DEPRESSION ANGLE 1.27 °,
AZIMUTH FROM SITE 276.75 °

WRCX

70.34 dBuV/m



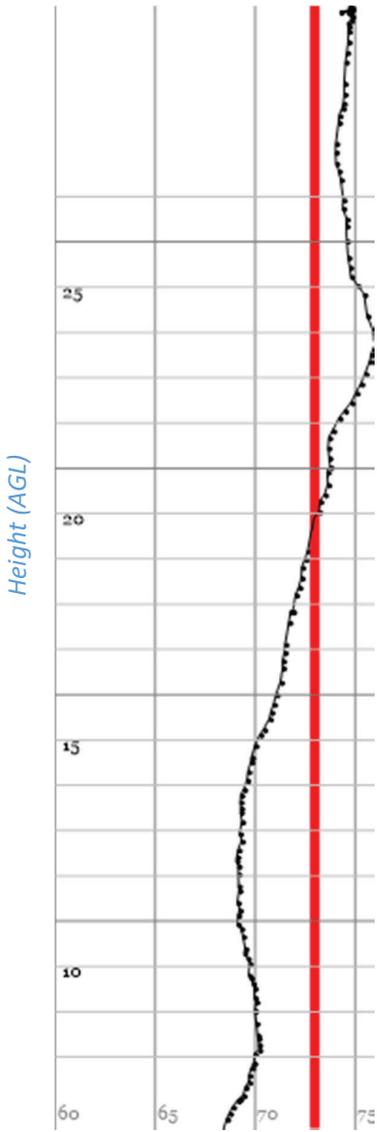
Field Strength (dBuV/m)

DYNAMIC ELEVATION – FACE A TP11

DISTANCE FROM ANTENNA 14781.6 m, DEPRESSION ANGLE 2.98 °,
AZIMUTH FROM SITE 225.97 °

WRCX

72.99 dBuV/m



Field Strength (dBuV/m)

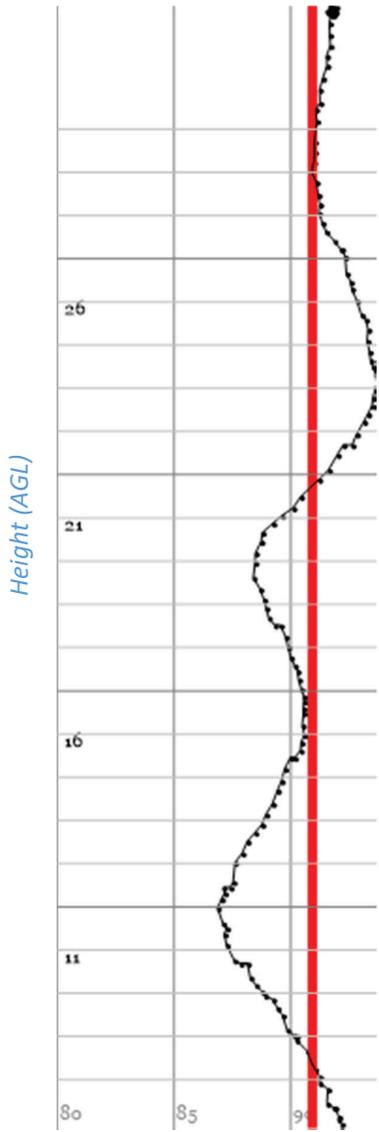
DYNAMIC ELEVATION – FACE A TP10A

DISTANCE FROM ANTENNA 6595.6 m, DEPRESSION ANGLE 6.52 °,

AZIMUTH FROM SITE 0.07 °

WRCX

90.92 dBuV/m



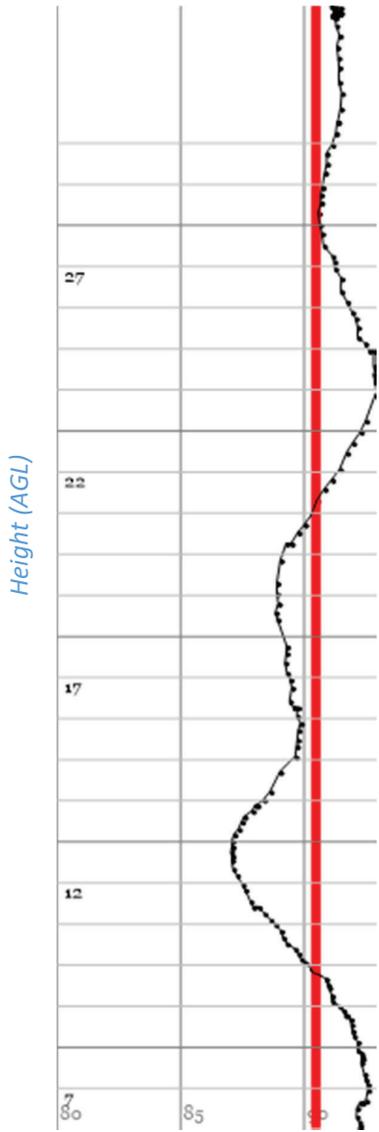
Field Strength (dBuV/m)

DYNAMIC ELEVATION – FACE A TP10

DISTANCE FROM ANTENNA 6596.2 m, DEPRESSION ANGLE 6.51 °,
AZIMUTH FROM SITE 0.09 °

WRCX

90.47 dBuV/m



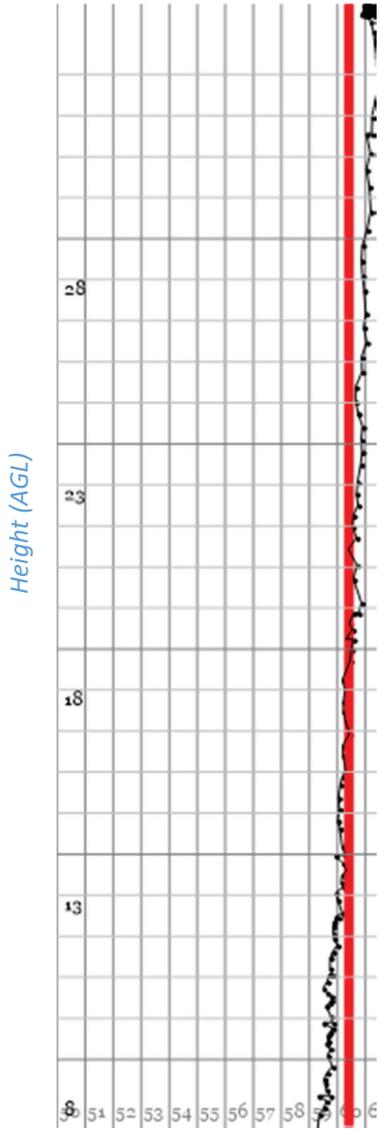
Field Strength (dBuV/m)

DYNAMIC ELEVATION – FACE A TP9

DISTANCE FROM ANTENNA 49132.1 m, DEPRESSION ANGLE 0.71 °,
AZIMUTH FROM SITE 321.25 °

WRCX

60.41 dBuV/m



Field Strength (dBuV/m)

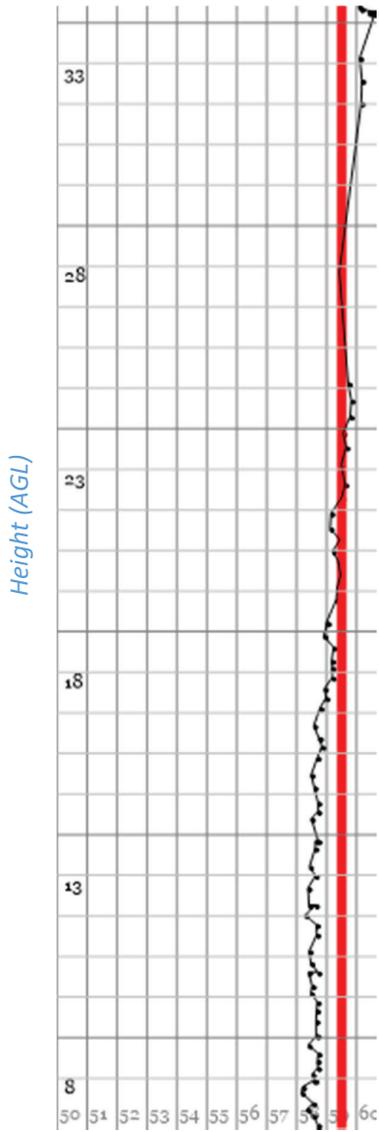
DYNAMIC ELEVATION – FACE A TP 8

DISTANCE FROM ANTENNA 58313.1 m, DEPRESSION ANGLE 0.62 °,

AZIMUTH FROM SITE 339.51 °

WRCX

59.50 dBuV/m



Field Strength (dBuV/m)

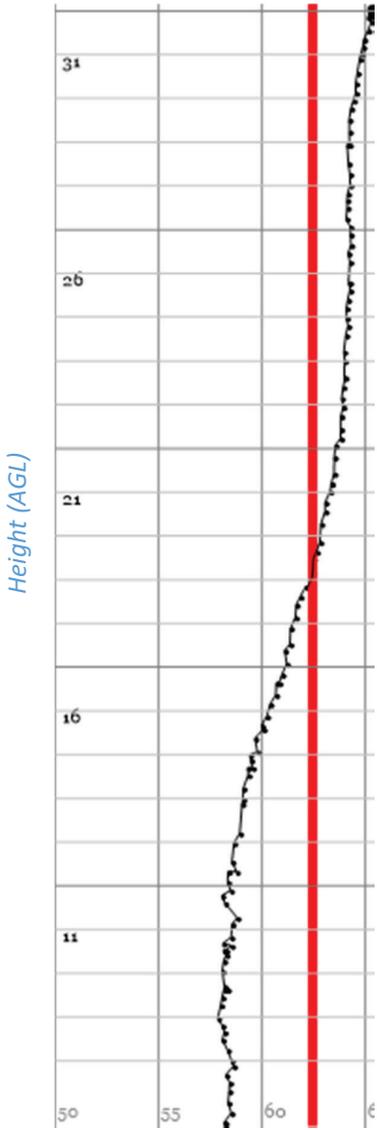
DYNAMIC ELEVATION – FACE A TP 7

DISTANCE FROM ANTENNA 62316.1 m, DEPRESSION ANGLE 0.56 °,

AZIMUTH FROM SITE 5.39 °

WRCX

62.46 dBuV/m



Field Strength (dBuV/m)

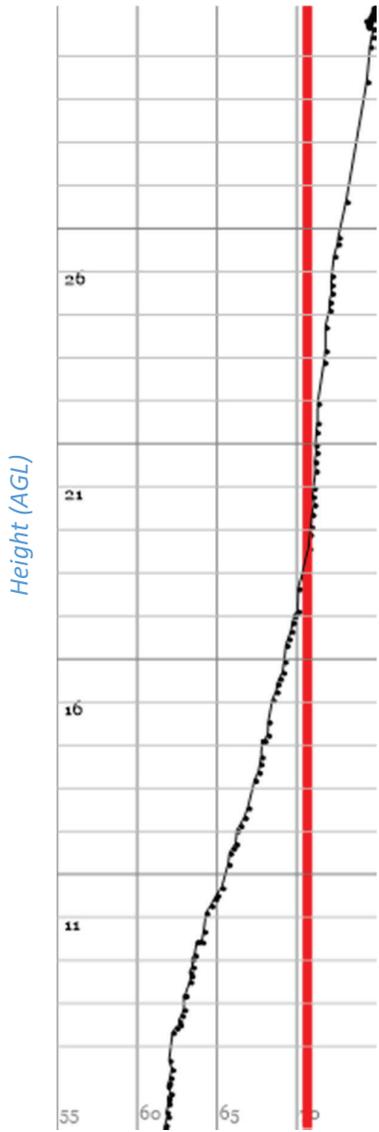
DYNAMIC ELEVATION – FACE A TP 6

DISTANCE FROM ANTENNA 37104.2 m, DEPRESSION ANGLE 0.99 °,

AZIMUTH FROM SITE 1.81 °

WRCX

70.66 dBuV/m



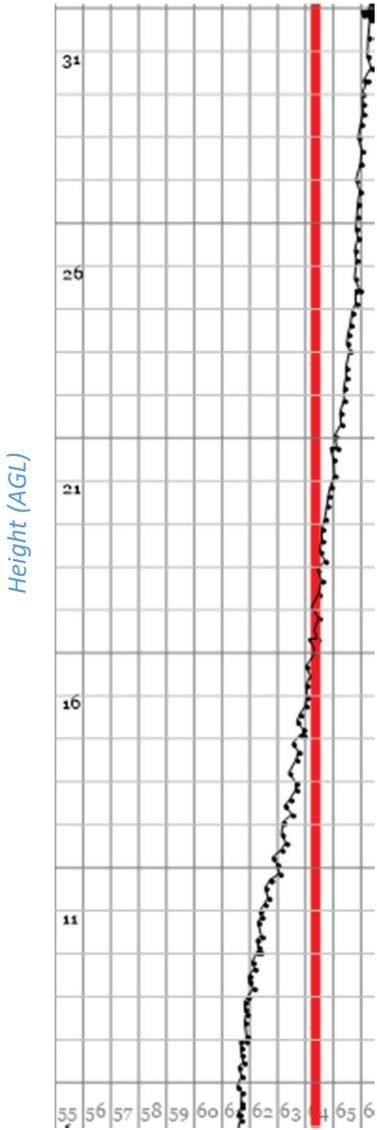
Field Strength (dBuV/m)

DYNAMIC ELEVATION – FACE A TP5.A

DISTANCE FROM ANTENNA 58851.5 m, DEPRESSION ANGLE 0.58 °,
AZIMUTH FROM SITE 46.06 °

WRCX

64.36 dBuV/m



Field Strength (dBuV/m)

DYNAMIC ELEVATION – {PANEL.NAME} {SESSIONRUN.NAME}

DISTANCE FROM ANTENNA {Merged.FlightDistance} m, **DEPRESSION ANGLE** {Merged.DepressionAngle} °,

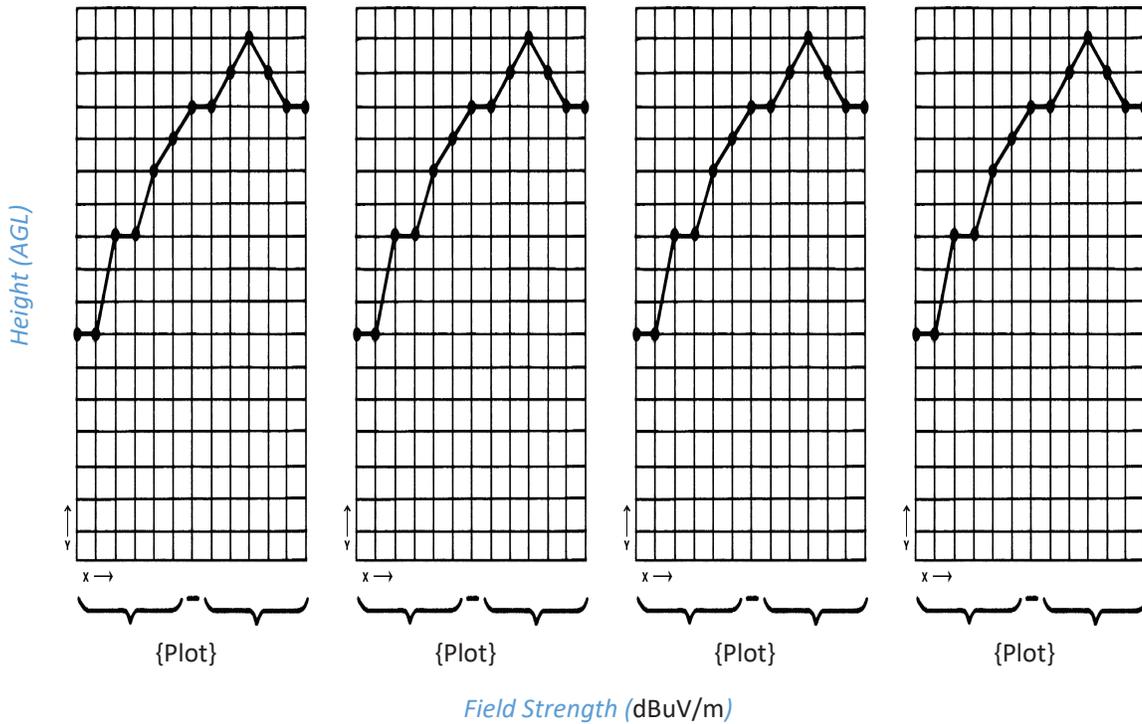
AZIMUTH FROM SITE {Panel.Azimuth} °

{SERVICE.NAME}
{AvgFieldStrength}
dBuV/m

{SERVICE.NAME}
{AvgFieldStrength}
dBuV/m

{SERVICE.NAME}
{AvgFieldStrength}
dBuV/m

{SERVICE.NAME}
{AvgFieldStrength}
dBuV/m

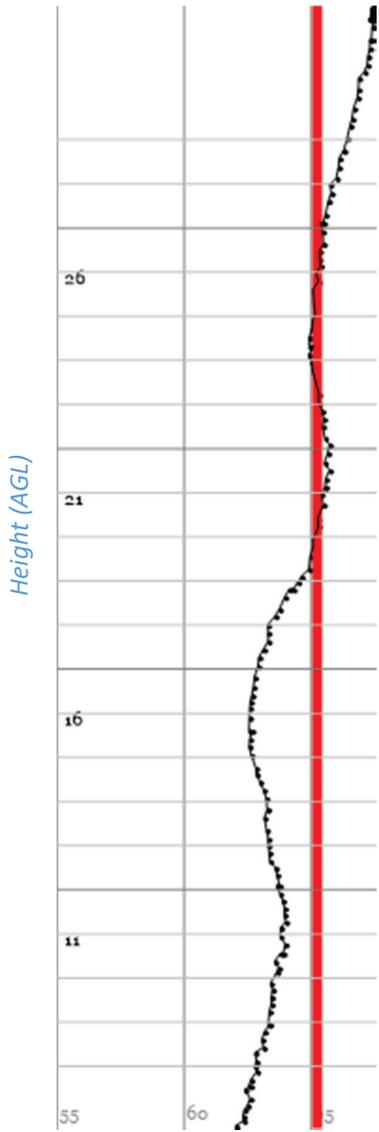


DYNAMIC ELEVATION – FACE A TP4

DISTANCE FROM ANTENNA 50377.9 m, DEPRESSION ANGLE 0.67 °,
AZIMUTH FROM SITE 56.71 °

WRCX

65.24 dBuV/m



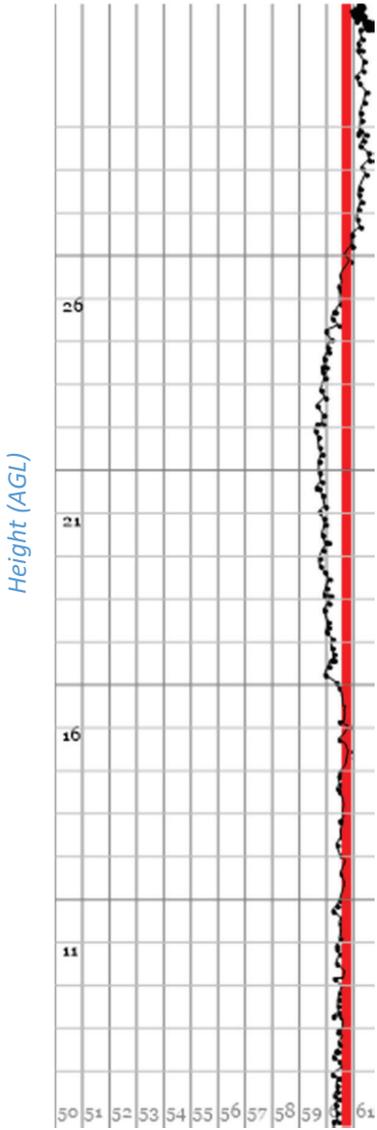
Field Strength (dBuV/m)

DYNAMIC ELEVATION – FACE A TP3

DISTANCE FROM ANTENNA 54298.7 m, DEPRESSION ANGLE 0.61 °,
AZIMUTH FROM SITE 77.56 °

WRCX

60.74 dBuV/m



Field Strength (dBuV/m)

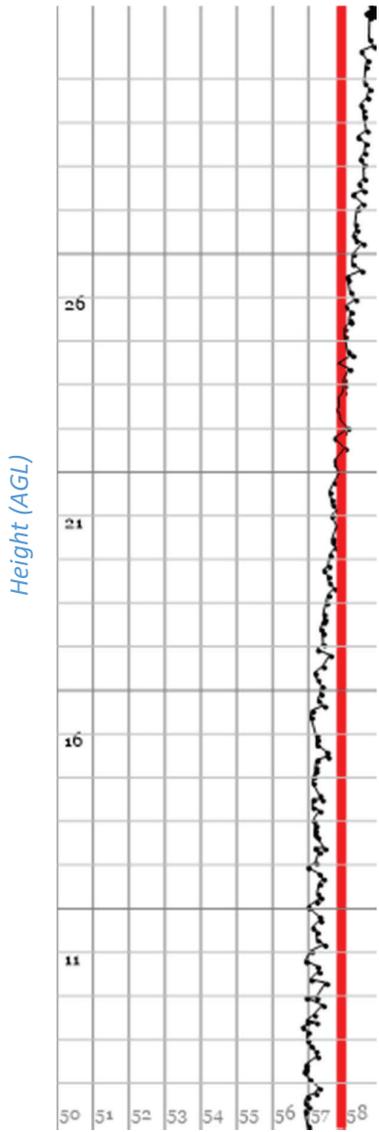
DYNAMIC ELEVATION – FACE A TP2

DISTANCE FROM ANTENNA 59594.7 m, DEPRESSION ANGLE 0.58 °,

AZIMUTH FROM SITE 97.81 °

WRCX

57.92 dBuV/m



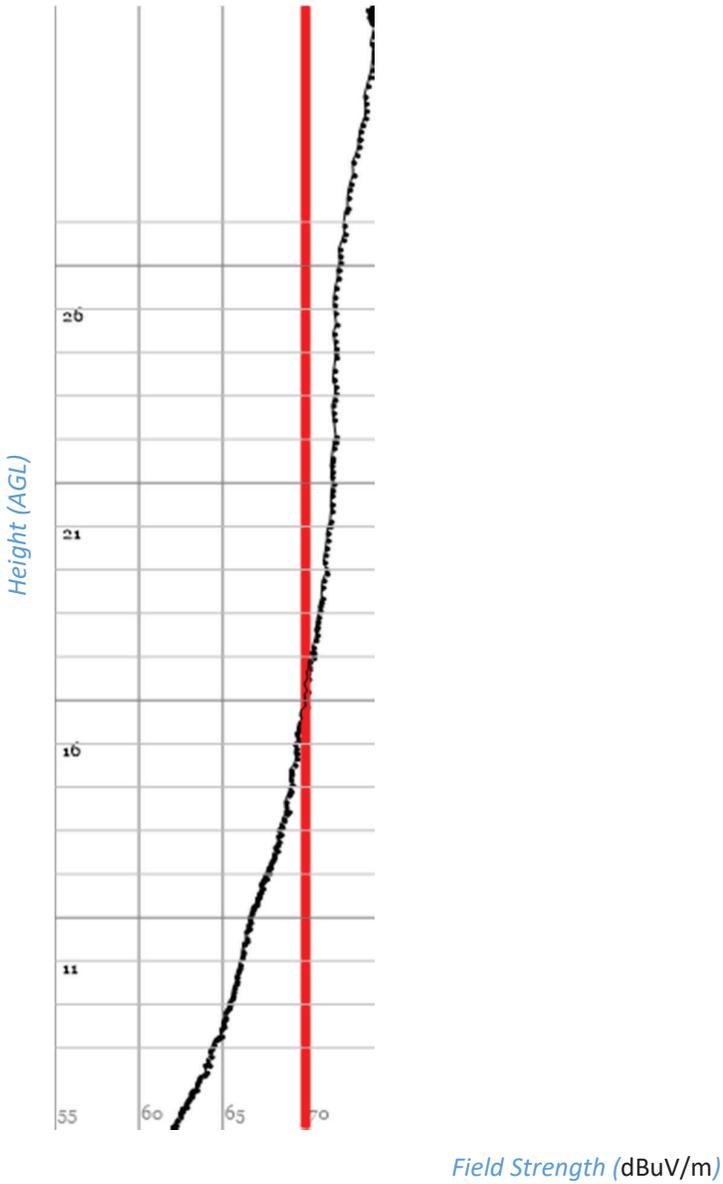
Field Strength (dBuV/m)

DYNAMIC ELEVATION – FACE A TP1

DISTANCE FROM ANTENNA 26528.0 m, DEPRESSION ANGLE 1.38 °,
AZIMUTH FROM SITE 97.19 °

WRCX

69.96 dBuV/m



5/ PARAMETERS

SPECTRUM ANALYSER SETUP

START FREQUENCY 185.4 MHz

STOP FREQUENCY 192.6 MHz

RBW 100 kHz
VBW 100 kHz
AVERAGE SWEEP TIME 52.8 ms
SERIAL NUMBER (70300134, 0)
DETECTOR Average

6/ RECEIVER SETUP

WRCX

ANTENNA MODEL	
ANTENNA POLARISATION	Horizontal
ANTENNA GAIN (DBD)	-11.869865
FACTOR (DB)	13.5972941709357
CABLE LOSS (DB)	0
ATTENUATION 1 (DB)	0
ATTENUATION 2 (DB)	0
PRECISION OFFSET (M)	0
CALIBRATION FACTOR (DB)	25.4671591709357

EXHIBIT B



CV TP Details

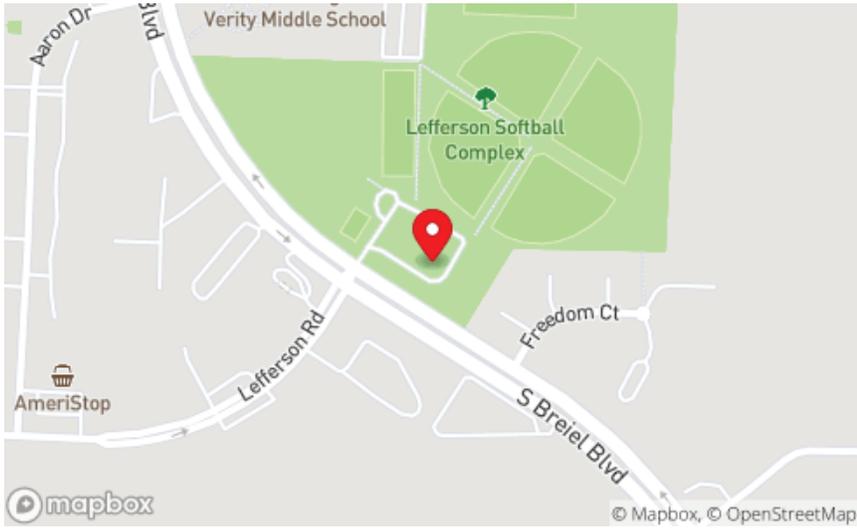
Section 1

Site Name?	WRCX JOHN VERIFY
Polarization	HPOL
Test Point Number	Other
Misc TP	John 1

Site Safety

Area Free of People?	Yes
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Section 2

Who is PIC?	Jed
	<p> 39.490735, -84.352550 07-21-2021 10:13 AM</p>
As Pilot in Command, I certify that I believe the area to be safe to fly and take full responsibility.	
	<p> 39.490734, -84.352547 07-21-2021 10:13 AM</p>
Location / GPS	
	Lat: 39.49073081073592 Long: -84.35254118873317
	07-21-2021 10:13 AM
Checked Area?	Yes

Section 3

Airspace Clear on AIRMAP/UAVForecast	Yes
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CV TP Details

	 39.490730, -84.352540 07-21-2021 10:13 AM
AIRMAP Screenshot	
Require Permission?	No

AMS

Clean Data Spread?	No
Did You Re-Fly?	Yes
Why Re-Fly	Noise
Correct TP Number?	Yes
Reasonable Distance?	Yes



CV TP Details

<p>Show Graph (No Glare)</p>	
<p>10 M</p>	
<p>30 M</p>	

Flight Section

<p>HPOL Drone Set Up, One For Every Flight</p>	
<p>VPOL Drone Set Up, One For Every Flight</p>	



CV TP Details

Form Locations

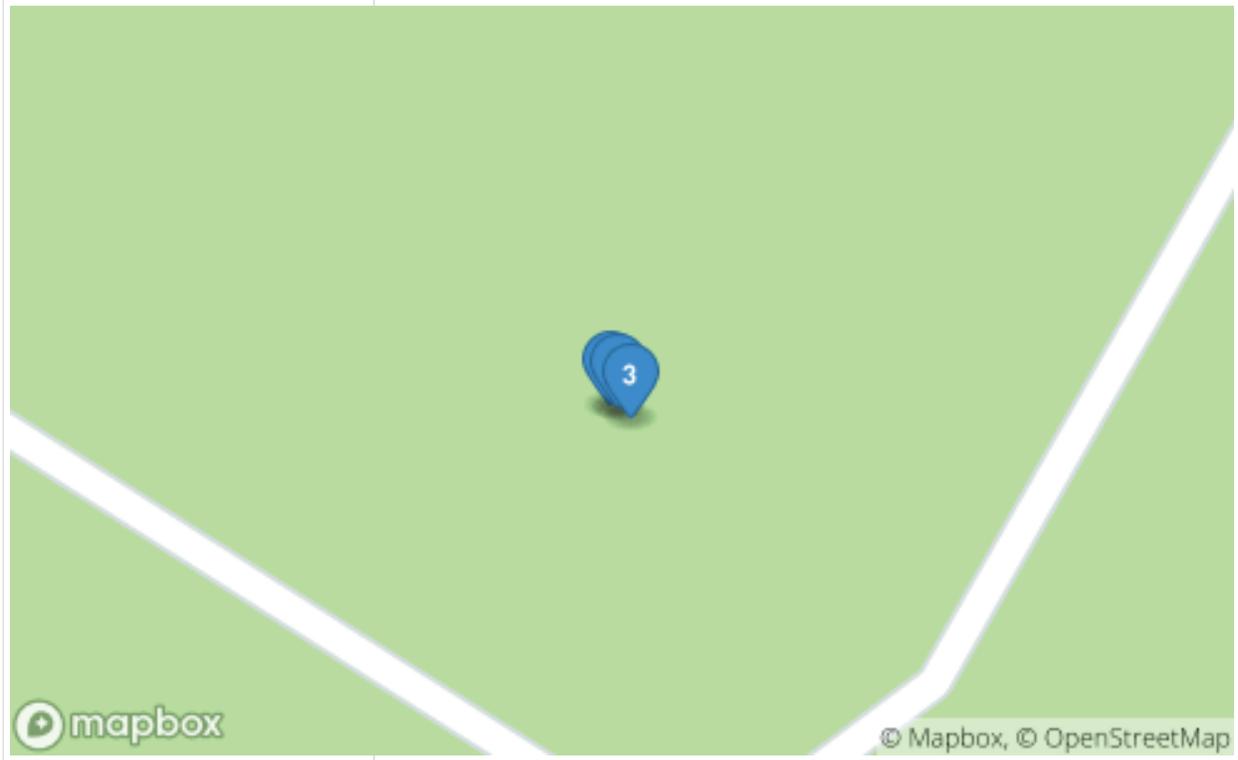
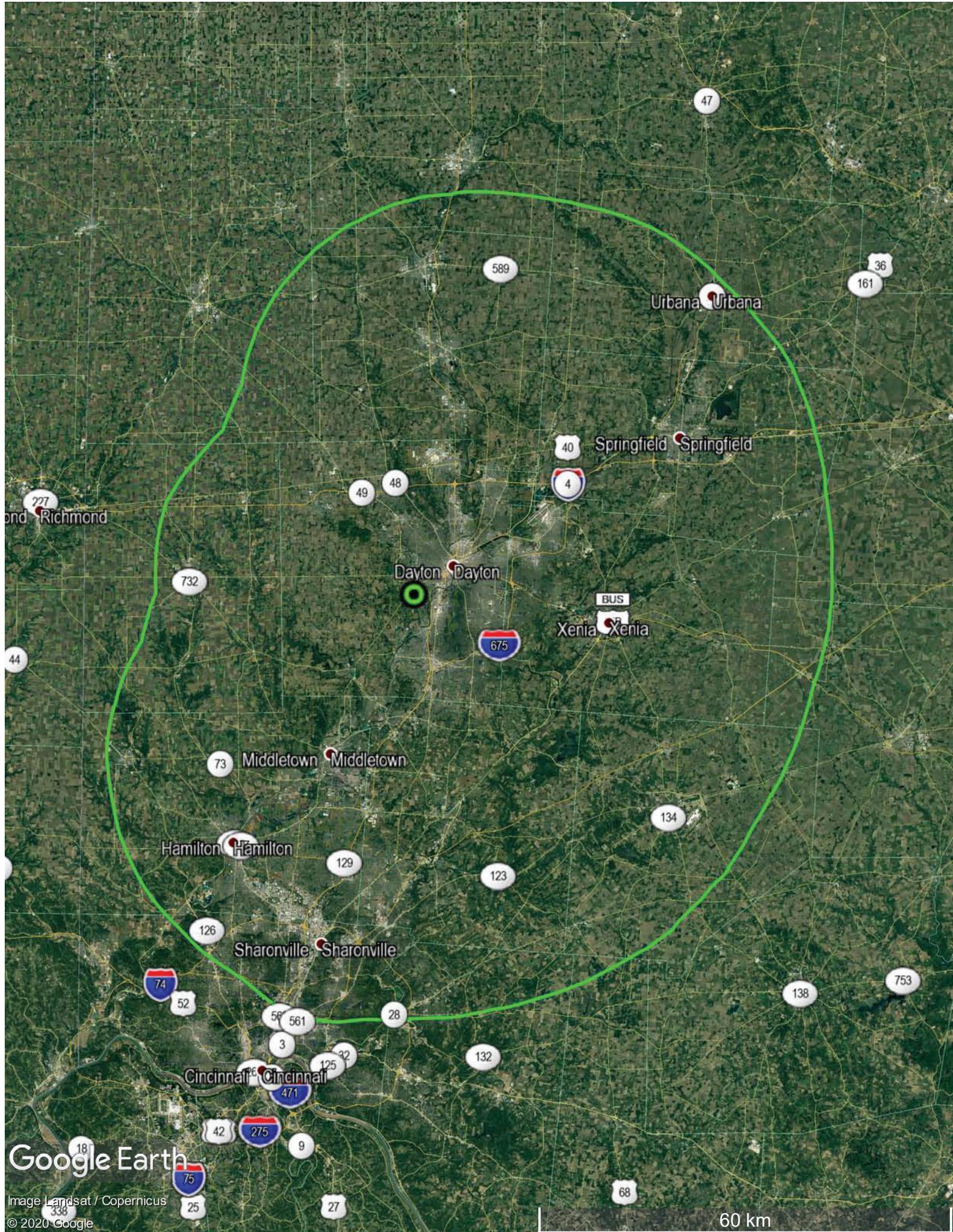


EXHIBIT C



Google Earth

Image Landsat / Copernicus
© 2020 Google

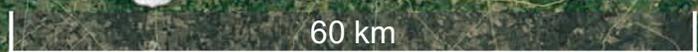


EXHIBIT D

POWER BUDGET FOR HIGH-BAND VHF REPLACEMENT CHANNEL

WRCX-LD 3.0 KW-DA 553.1 M AMSL CHANNEL 9

DAYTON, OHIO

ANTENNA SYSTEM

Channel	Description	Polarization:	Horizontal	Rated Input:	6.0 kW
9	1x2 Power Antenna PA31-SDP				
<u>Antenna Parameters</u>		<u>H-Pol Gain</u>		<u>V-Pol Gain</u>	
	Peak Power Gain:	3.89	(5.90 dB)	1.00	(0.00 dB)
	Power Gain:	3.89	(5.90 dB)		

TRANSMISSION LINE LOSS

	Description	Capacity (kW)	Length(ft.)	dB/100 ft.	Loss (dB)
Line 1:	LCF 158-50J	12.48	989	0.272	2.69
Line 2:					
		Efficiency:	53.83%	Total:	2.69

TRANSMITTER FILTER / COMBINER LOSSES

	Description	Loss (dB)	Notes
Filter:	COM-TECH TC8D140B	0.44	VHF B.III 8-Pole 140mm Bandpass Filter
Combiner:			

OPERATING POWER

		kW	dBk
Facility:	LMS No. 0000130831	ERP:	3
Constant:	Effective Radiated Power		4.77

FCC OPERATING CONTANTS

1.56 dBk	TPO	1.433 kW	Line 1 input - does not exceed capacity
2.69 dB	TX Line Loss		
-1.13 dBk	Antenna Input		
5.90 dBd	H-Pol Antenna Gain		
4.77 dBk	H-Pol ERP	3.0 kW	
			Show FCC Tolerance: <input type="checkbox"/> No

TRANSMITTER POWER OUTPUT (TPO)

	dBk	kW
Pre-filter:	2.0	1.59
Post filter (before combiner, if applicable):	1.56	1.43
Input to transmission line:	1.56	1.43

Notes:

Prepared by: **Scott Turpie**
Technical Consultant
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 P.O. Box 16343
 Alexandria, VA 22302
 301-776-4488
scott@locul.com

Antenna power gain was taken from the data sheet provide by Power Antenna Manufacturing, Inc. This gain value is also reflected on Invoice No. 72320-1 prepared by Transcom Corp.

TX-line attenuation dB/100 ft. was interpolated at 189 MHz based on the values of the nearest lower and upper frequencies listed in RFS's Product Data Sheet for 1-5/8" CELLFLEX Foam Dielectric Coaxial Cable.