DETAILED INTERFERENCE ANALYSIS REPORT

Transmit/Receive Earth Station

Prepared For
RKF Engineering
Gwinnett, Georgia
Transmit/Receive Earth Station

July 27, 2020

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SECTION 1

INTRODUCTION

Transmit/Receive Earth Station

This report presents the results of a detailed interference analysis for the proposed S-band uplink earth station. The site was selected by RKF Engineering and is located in Gwinnett, Georgia.

The analysis was performed for a 7.3 meter antenna. The long term interference objective at 2 GHz, was -154 dBW/4 kHz.

The earth station was analyzed for transmission of data traffic down to a minimum elevation of 12.5 degrees.

This detailed interference analysis is meant to provide an estimate of potential interference at this location, and to recommend a course of future action.

SECTION 2

REPORT CONTENTS AND PROCEDURES

Transmit/Receive Earth Station

This section describes the contents of the report for the proposed S-band transmit earth station.

Section 1 describes the site location, the antenna considered, and the system parameters considered in the detailed interference analysis. The analysis was undertaken to determine the potential for microwave interference for the transmit earth station at the site specified.

Initially, a computer analysis of this site was performed to determine the extent of potential interference on a line-of-sight (LOS) basis. This analysis considers the microwave environment with respect to the earth station and calculates predicted signal levels between these systems. Paths that exceed a given objective level are listed for further analysis. The objective levels present the maximum interference levels allowed between the earth station and the surrounding terrestrial microwave environment for the frequency band of interest.

To further analyze the effect of the predicted interference conflicts, terrain path profiles were prepared for the critical cases. This involves plotting the interference path on topographic maps, typically 7.5 minute series U.S.G.S. maps, to determine the terrain characteristics of the path. Once this has been accomplished, predicted over-the-horizon (O-H) losses are calculated using the techniques of the National Bureau of Standards Technical Note 101 (Revised).

These calculations give the amount of signal attenuation achieved due to terrain blockage.

Section 3 summarizes the results of the site analysis. This summary includes the number of cases that were considered, the interference cases that remain, and the proposed resolution of the interference problems.

Table 3.1-1 lists the Great Circle interference cases and the predicted O-H losses calculated on the various 2 GHz paths, respectively. If multiple analyses are considered, such as changes in satellite arc or antenna, the results are presented in Tables 3.1-1.1, 3.1-1.2, 3.2-1.1 3.2-1.2, etc.....

A brief explanation of the various columns shown in Table 3.1-1 follows:

PATH ID: This is the predicted interference path. The first site listed is the receiver at 2 GHz.

BAND: This shows the frequency plan of the interfering paths. The 2 GHz paths affect transmission of the uplink.

DIST: This is the distance from the earth station to the terrestrial station in kilometers.

AZ: This is the azimuth bearing in degrees (taken from True North), from the earth station toward the terrestrial station.

ES DISC: This is the earth station discrimination angle in degrees, towards the involved terrestrial facility.

ES GAIN: This is the gain of the earth station in dBi, at the calculated earth station discrimination angle.

LOS LOSS REQ'D: This is the amount of loss required in dB, on a line-of-sight basis, to meet the interference objective.

O-H LOSS: This is the calculated over-the-horizon (O-H) losses in dB, between the earth station and the involved terrestrial station. The 20 percent column represents losses for the long term objective. The 0.0025 and .01 percent columns present the losses for the short term objective at 18 GHz.

REVISED MARGIN: This is the difference between the LOS margin and the predicted O-H losses achieved due to terrain blockage. Sufficient attenuation is calculated for the paths, which show the word "CLEAR" in the revised margin. Cases showing a positive revised margin will require additional losses to meet the interference objective.

The information listed at the bottom of the table reflects the antennas, satellite arc, and interference objectives considered for the proposed site.

Section 4 presents conclusions and recommendations. It gives an overall description of the microwave environment and suggests a future course of action.

Table 5.1-1 contains the operational parameters for the proposed earth station.

Figure 5.1-1 indicates the location of the site analyzed. This location should be verified. **If it is not the desired site, Comsearch should be notified immediately so that the precise location can be analyzed.**

SECTION 3

SUMMARY AND RESULTS

The detailed interference analysis for the proposed earth station site to be located in Gwinnett, Georgia revealed that multiple potential interference conflicts exist in the 2 GHz band with TV Auxiliary Broadcast users. This is based on a search of the Comsearch database and of those 2 GHz paths that had been filed for license at the FCC. Table 3.1-1 provides a summary of all the cases considered in this analysis.

It should be noted however, these are only referenced sites from FCC licensing efforts and do not consider temporary mobile locations that local Auxiliary Broadcasters may use in their ENG operations. The local Broadcasters operate on distinct channel plans identified below.

Channel	(MHz)	(MHz)	(MHz)
1	2025.0	2037.4	12.4
2	2037.4	2049.5	12.1
3	2049.5	2061.6	12.1
4	2061.6	2073.7	12.1
5	2073.7	2085.8	12.1
6	2085.8	2097.9	12.1
7	2097.9	2110.0	12.1

Based on this information, the Gwinnett uplink may affect Broadcaster operation on select channels.

Table 4.1-1 provides a summary of the cases of concern for operation in the **2051.3 – 2052.7** MHz spectrum.

SECTION 4

CONCLUSIONS AND RECOMMENDATIONS

4.1 Conclusions

Based on the results of the detailed interference analysis, multiple direct potential cases of interference were identified to Broadcast Band fixed locations operating on receive channels that would be affected by the proposed uplink frequencies of **2051.3 – 2052.7** MHz. Potential interference conflicts to mobile ENG locations operated by local Auxiliary Broadcasters could present a problem depending on the areas of operation reported by the individual Broadcasters.

The initial contact with the local Broadcasters operating near the Gwinnett earth station facility during the frequency coordination of this site may identify additional areas of concern. RKF may receive opposition from the local Broadcasters based on previous coordination efforts in this band and possible requests from the Broadcasters for on-site testing between the proposed earth station site and the areas identified by the local Broadcasters.

4.2 Recommendations

It is recommended that RKF review the operating parameters of the proposed uplink and determine whether any modifications to transmit power, uplink frequency range or minimum elevation angle can be tolerated to lessen the impact on local 2 GHz Auxiliary Broadcast receiver locations.

It is also recommended that frequency coordination be initiated to allow for adequate time in resolving potential interference conflicts with local Broadcasters.

Table 4.1-1
(**Broadcast**)

Great Circle Interference Conflicts
07/26/2020

```
Earth Station Name     GWINNETT, GA
Owner                  RKF ENGINEERING
Latitude  (DMS) (NAD83)  33 57 46.0 N
Longitude (DMS) (NAD83)  84  5 45.0 W
Ground Elevation (ft/m)      934.91 /   284.96 Amsl
Antenna Centerline (ft/m)     16.00 /     4.88 Agl
Objectives: Transmit     -154.0 (dBW /4 kHz)  Tx Power   -14.4 (dBW/4 kHz)
       Terrestrial Path              Gnd   Edisct  Ges FsLoss Dist  Pr Tpwr Plan
    Latitude   Longitude Call Sign   Acl   Tdisct  Gts Tant    Az  Margin LL
    Owner                                            Loading
    Freq/Pol
   1 FLOWERY BRANGAWSB-TV ENG  GA   271.20  43.0 -10.0 127.5   28.4-126.9  0.0BT
     34  7 32  83 51 32 RXONLY      458.70   1.2  25.0 *21000  50.4 27.1   0.0
    ZWSBTV: Georgia Television Company              1 CH     FMV  RCN:
   2025.5000B
    Status:  L                      Equipment: AB9918 Emission: 12M0F8W
     OH LOSS  20% / 0.0025%:    0.00 /   0.00
   2 FLOWERY BRANGAWSB-TV ENG  GA   271.20  43.0 -10.0 127.5   28.4-126.9  0.0BT
     34  7 32  83 51 32 RXONLY      458.70   1.2  25.0 *21000  50.4 27.1   0.0
    ZWSBTV: Georgia Television Company              1 CH     DIG  RCN:
   2025.5000B
    Status:  L                      Equipment: AB9823 Emission: 12M0D7W
     OH LOSS  20% / 0.0025%:    0.00 /   0.00
   3 FLOWERY BRANGAWSB-TV ENG  GA   271.20  43.0 -10.0 127.5   28.4-126.9  0.0BT
     34  7 32  83 51 32 RXONLY      458.70   1.2  25.0 *21000  50.4 27.1   0.0
    ZWSBTV: Georgia Television Company              1 CH     DIG  RCN:
   2025.5000B
    Status:  L                      Equipment: AB9934 Emission: 25K0G1D
     OH LOSS  20% / 0.0025%:    0.00 /   0.00
   4 FLOWERY BRANGAWSB-TV ENG  GA   271.20  43.0 -10.0 127.5   28.4-126.9  0.0NS
     34  7 32  83 51 32 RXONLY      458.70   1.2  25.0 *21000  50.4 27.1   0.0
    ZWSBTV: Georgia Television Company              1 CH     DIG  RCN:
   2109.5000B
    Status:  L                      Equipment: AB9934 Emission: 25K0G1D
     OH LOSS  20% / 0.0025%:    0.00 /   0.00
   5 GAINESVILLE GATEMPY LOC   GA   262.10  43.0 -10.0 127.6   28.4-127.0  0.0BT
     34  7 32  83 51 31 RXONLY      537.70   0.1  25.0 2QUADN  50.4 27.0   0.0
    WAGATV: New World Communications of Atlanta, Inc DIGITAL  DIG  RCN:
   2025.5000B   2037.5000B   2049.5000B   2061.5000B   2073.5000B   2085.5000B
   2097.5000B
    Status:  L                      Equipment: AB9823 Emission: 12M0D7W
     OH LOSS  20% / 0.0025%:    0.00 /   0.00
```

Great Circle Interference Conflicts
07/26/2020

Earth Station Name GWINNETT, GA
Owner RKF ENGINEERING
Latitude (DMS) (NAD83) 33 57 46.0 N
Longitude (DMS) (NAD83) 84 5 45.0 W
Ground Elevation (ft/m) 934.91 / 284.96 Amsl
Antenna Centerline (ft/m) 16.00 / 4.88 Agl
Objectives: Transmit -154.0 (dBW /4 kHz) Tx Power -14.4 (dBW/4 kHz)

	Terrestrial Path		Gnd	Edisct	Ges	FsLoss	Dist	Pr	Tpwr	Plan
	Latitude	Longitude Call Sign	Acl	Tdisct	Gts	Tant	Az	Margin	LL	
	Owner					Loading				
	Freq/Pol									

7 MIDTOWN GATEMPY LOC GA 323.10 137.1 -10.0 129.5 35.5-129.2 0.0BT
33 45 32 84 23 32 RXONLY 328.00 358.8 24.7 2QUADN 230.6 24.8 0.0
WAGATV: New World Communications of Atlanta, Inc DIGITAL DIG RCN:
2025.5000B 2037.5000B 2049.5000B 2061.5000B 2073.5000B 2085.5000B
2097.5000B
Status: L Equipment: AB9823 Emission: 12M0D7W
OH LOSS 20% / 0.0025%: 4.20 / -1.80

11 RICHLAND TWRGATEMPY LOC GA 266.70 139.4 -10.0 127.6 28.5-132.0 0.0BT
33 48 27 84 20 27 RXONLY 304.80 195.2 20.0 2UDR2N 232.8 22.0 0.0
MECOGA: Meredith Corporation - WGCL DIGITAL DIG RCN:
2025.5000B 2037.5000B 2049.5000B 2061.5000B 2073.5000B 2085.5000B
2097.5000B
Status: L Equipment: AB9823 Emission: 12M0D7W
OH LOSS 20% / 0.0025%: 3.30 / -1.50

12 BLACKJACK GATEMPY LOC GA 386.20 175.3 -10.0 130.0 37.6-134.4 0.0BT
33 58 19 84 30 8 RXONLY 76.20 295.6 20.0 22OMNM 271.7 19.6 0.0
MECOGA: Meredith Corporation - WGCL DIGITAL DIG RCN:
2025.5000B 2037.5000B 2049.5000B 2061.5000B 2073.5000B 2085.5000B
2097.5000B
Status: L Equipment: AB9823 Emission: 12M0D7W
OH LOSS 20% / 0.0025%: 15.60 / 7.40

17 WESTIN PLZ GATEMPY LOC GA 324.60 136.8 -10.0 129.4 35.2-137.8 0.0BT
33 45 34 84 23 18 RXONLY 304.80 253.0 16.0 O20000 230.3 16.2 0.0
MECOGA: Meredith Corporation - WGCL DIGITAL DIG RCN:
2025.5000B 2037.5000B 2049.5000B 2061.5000B 2073.5000B 2085.5000B
2097.5000B
Status: L Equipment: AB9823 Emission: 12M0D7W
OH LOSS 20% / 0.0025%: 4.50 / -1.70

18 WESTIN PLZ GATEMPY LOC GA 324.60 136.8 -10.0 129.4 35.2-137.8 0.0BT
33 45 34 84 23 18 RXONLY 220.40 253.0 16.0 O20000 230.3 16.2 0.0
MECOGA: Meredith Corporation - WGCL DIGITAL DIG RCN:
2025.5000B 2037.5000B 2049.5000B 2061.5000B 2073.5000B 2085.5000B
2097.5000B
Status: L Equipment: AB9823 Emission: 12M0D7W
OH LOSS 20% / 0.0025%: 6.00 / -1.10

Great Circle Interference Conflicts
07/26/2020

Earth Station Name GWINNETT, GA
Owner RKF ENGINEERING
Latitude (DMS) (NAD83) 33 57 46.0 N
Longitude (DMS) (NAD83) 84 5 45.0 W
Ground Elevation (ft/m) 934.91 / 284.96 Amsl
Antenna Centerline (ft/m) 16.00 / 4.88 Agl
Objectives: Transmit -154.0 (dBW /4 kHz) Tx Power -14.4 (dBW/4 kHz)

Terrestrial Path			Gnd	Edisct	Ges	FsLoss	Dist	Pr	Tpwr	Plan
Latitude	Longitude	Call Sign	Acl	Tdisct	Gts	Tant	Az	Margin	LL	
Owner						Loading				
Freq/Pol										
32 WSB STUDIO		GAWSB-TV ENG	GA	288.00	142.5	-10.0	128.7	32.5-146.1	0.0	BT
33 47 55	84 23 13	RXONLY		153.40	267.6	7.0	*21000	236.0	7.9	0.0
ZWSBTV: Georgia Television Company						1	CH	FMV	RCN:	
2025.5000B										
Status: L				Equipment: AB9918			Emission: 12M0F8W			
OH LOSS 20% / 0.0025%:			5.60 / -1.00							
33 WSB STUDIO		GAWSB-TV ENG	GA	288.00	142.5	-10.0	128.7	32.5-146.1	0.0	BT
33 47 55	84 23 13	RXONLY		153.40	267.6	7.0	*21000	236.0	7.9	0.0
ZWSBTV: Georgia Television Company						1	CH	DIG	RCN:	
2025.5000B										
Status: L				Equipment: AB9823			Emission: 12M0D7W			
OH LOSS 20% / 0.0025%:			5.60 / -1.00							

Table 5.1-1

SATELLITE EARTH STATION
FREQUENCY COORDINATION DATA
07/26/2020

Company		RKF ENGINEERING
Owner Code		
Earth Station Name, State		GWINNETT, GA
Latitude (DMS) (NAD83)		33 57 46.0 N
Longitude (DMS) (NAD83)		84 5 45.0 W
Ground Elevation AMSL (ft/m)		934.91 / 284.96
Antenna Centerline AGL (ft/m)		16.00 / 4.88
Transmit Antenna Type:	FCC32	ViaSat
2.0 GHz Gain (dBi) / Diameter (m)		40.5 / 7.3
3 dB / 15 dB Half Beamwidth		0.50 / 1.00
Operating Mode		TRANSMIT ONLY
Modulation		DIGITAL
Emission / Transmit Band (MHz)		1M40G7D / 2051.3000 - 2052.7000
Max. Available RF Power	(dBW)/4 kHz)	-14.40
	(dBW)/MHz)	9.60
Max. EIRP	(dBW)/4 kHz)	26.10
	(dBW)/MHz)	50.10
Max. Permissible Interference Power		
2.0 GHz, 20% (dBW/4 kHz)		-154.0
2.0 GHz, 0.0025% (dBW/4 kHz)		-131.0
Low Earth Orbit Satellite		
Azimuth Range (Min/Max) Degrees		0.0 / 360.0
Minimum Elevation Angle Degrees		12.5
Radio Climate		A
Rain Zone		1
Max. Great Circle Coordination Distance (mi./km)		
2.0 GHz		109.4 / 176.0
Precipitation Scatter Contour Radius (mi./km)		
2.0 GHz		62.1 / 100.0

Note: Horizon is less than 0.2 degrees at all azimuths

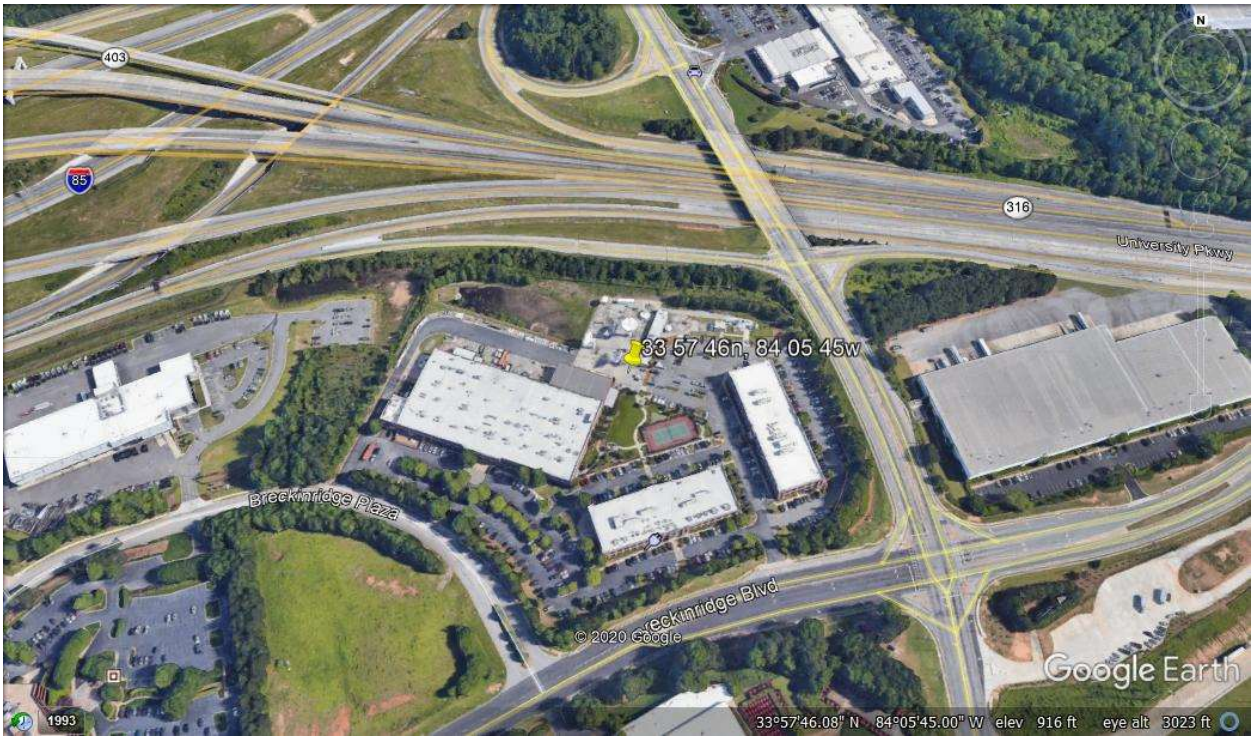
403
85
316
University Pkwy
33 57 46n, 84 05 45w
Breckinridge Plaza
Breckinridge Blvd
© 2020 Google
Google Earth
1993
33°57'46.08" N 84°05'45.00" W elev 916 ft eye alt 3023 ft

Figure 5.1-1

Table 3.1-1
Interference Case Summary
Gwinnett, Georgia

Case #	Path ID		Band (GHz)	Distance (km)	Azimuth (°)	ES Disc (°)	ES Gain (dBi)	LOS Loss Required (dB)	OH Loss 20% (dB)	OH Loss 0.01% (dB)	Revised Margin 20% (dB)	Revised Margin 0.01% (dB)
1	FLOWERY BRAN	WSB-TV ENG	2.0	28.4	50.4	43.0	-10.0	27.1	0.0	0.0	27.1	4.1
2	FLOWERY BRAN	WSB-TV ENG	2.0	28.4	50.4	43.0	-10.0	27.1	0.0	0.0	27.1	4.1
3	FLOWERY BRAN	WSB-TV ENG	2.0	28.4	50.4	43.0	-10.0	27.1	0.0	0.0	27.1	4.1
4	FLOWERY BRAN	WSB-TV ENG	2.0	28.4	50.4	43.0	-10.0	27.1	0.0	0.0	27.1	4.1
5	GAINESVILLE	TEMPY LOC	2.0	28.4	50.4	43.0	-10.0	27.0	0.0	0.0	27.0	4.0
6	FLOWERY	TEMPY LOC	2.0	28.4	50.4	43.0	-10.0	25.1	65.7	38.6	CLEAR	CLEAR
7	MIDTOWN	TEMPY LOC	2.0	35.5	230.6	137.1	-10.0	24.8	4.2	-1.8	20.6	3.6
8	TRACKER	TEMPY LOC	2.0	31.6	223.8	130.4	-10.0	24.1	70.6	39.5	CLEAR	CLEAR
9	SWEAT MT	TEMPY LOC	2.0	34.9	289.4	163.5	-10.0	23.3	26.0	11.3	CLEAR	CLEAR
10	WESTIN PEACH	TEMPY LOC	2.0	35.3	230.3	136.9	-10.0	23.2	59.3	35.5	CLEAR	CLEAR
11	RICHLAND TWR	TEMPY LOC	2.0	28.5	232.8	139.4	-10.0	22.0	3.3	-1.5	18.7	0.5
12	BLACKJACK	TEMPY LOC	2.0	37.6	271.7	175.3	-10.0	19.6	15.6	7.4	4.0	CLEAR
13	NEWNAN	WSB-TV ENG	2.0	91.8	228.5	135.0	-10.0	16.9	47.8	4.4	CLEAR	CLEAR
14	NEWNAN	WSB-TV ENG	2.0	91.8	228.5	135.0	-10.0	16.9	47.8	4.4	CLEAR	CLEAR
15	NEWNAN	WSB-TV ENG	2.0	91.8	228.5	135.0	-10.0	16.9	47.8	4.4	CLEAR	CLEAR
16	NEWNAN	WSB-TV ENG	2.0	91.8	228.5	135.0	-10.0	16.9	47.8	4.4	CLEAR	CLEAR
17	WESTIN PLZ	TEMPY LOC	2.0	35.2	230.3	136.8	-10.0	16.2	4.5	-1.7	11.7	CLEAR
18	WESTIN PLZ	TEMPY LOC	2.0	35.2	230.3	136.8	-10.0	16.2	6.0	-1.1	10.2	CLEAR
19	TEMPY LOC	TEMPY LOC	2.0	123.6	345.6	107.6	-10.0	14.3	150.1	107.7	CLEAR	CLEAR
20	TEMPY LOC	TEMPY LOC	2.0	123.6	345.6	107.6	-10.0	14.3	150.1	107.7	CLEAR	CLEAR
21	WAGA	TEMPY LOC	2.0	95.1	346.8	106.5	-10.0	13.2	114.8	74.1	CLEAR	CLEAR
22	NEWNAN TOWER	TEMPY LOC	2.0	91.5	228.3	134.8	-10.0	11.9	48.2	7.0	CLEAR	CLEAR
23	FOX TOWER	TEMPY LOC	2.0	95.4	166.6	73.3	-10.0	11.5	46.2	4.3	CLEAR	CLEAR
24	FAIRPLAY	TEMPY LOC	2.0	84.4	242.6	149.1	-10.0	11.4	22.7	11.5	CLEAR	CLEAR
25	SWEAT MTN	WSB-TV ENG	2.0	104.8	198.6	105.3	-10.0	8.6	53.7	3.3	CLEAR	CLEAR
26	TEMPY RX	TEMPY LOC	2.0	135.7	99.7	7.5	-10.0	8.5	115.8	74.5	CLEAR	CLEAR
27	TEMPY RX	TEMPY LOC	2.0	135.7	99.7	7.5	-10.0	8.5	115.8	74.5	CLEAR	CLEAR
28	TEMPY RX	TEMPY LOC	2.0	135.7	99.7	7.5	-10.0	8.5	115.8	74.5	CLEAR	CLEAR
29	BUCHANAN	WSB-TV ENG	2.0	100.6	258.9	165.1	-10.0	7.9	43.4	-2.6	CLEAR	CLEAR
30	BUCHANAN	WSB-TV ENG	2.0	100.6	258.9	165.1	-10.0	7.9	43.4	-2.6	CLEAR	CLEAR
31	BUCHANAN	WSB-TV ENG	2.0	100.6	258.9	165.1	-10.0	7.9	43.4	-2.6	CLEAR	CLEAR
32	WSB STUDIO	WSB-TV ENG	2.0	32.5	236.0	142.5	-10.0	7.9	5.6	0.0	2.3	CLEAR
33	WSB STUDIO	WSB-TV ENG	2.0	32.5	236.0	142.5	-10.0	7.9	5.6	0.0	2.3	CLEAR
34	WSB STUDIO	WSB-TV ENG	2.0	32.5	236.0	142.5	-10.0	7.9	5.6	0.0	2.3	CLEAR

Antenna Type: 7.3 meter
Uplink Power: -14.4 dBW/4 kHz
Satellite Arc: Min Elevation 12.5 degrees
Objectives: Long Term: -154.0 dBW/4 kHz Short Term: -131.0 dBW/4 kHz

Table 3.1-1
Interference Case Summary
Gwinnett, Georgia

Case #	Path ID		Band (GHz)	Distance (km)	Azimuth (°)	ES Disc (°)	ES Gain (dBi)	LOS Loss Required (dB)	OH Loss 20% (dB)	OH Loss 0.01% (dB)	Revised Margin 20% (dB)	Revised Margin 0.01% (dB)
35	WSB STUDIO	WSB-TV ENG	2.0	32.5	236.0	142.5	-10.0	7.9	5.6	0.0	2.3	CLEAR
36	ANDERSON	TEMPY LOC	2.0	147.6	65.1	28.5	-10.0	7.7	52.8	10.4	CLEAR	CLEAR
37	ANDERSON	TEMPY LOC	2.0	147.6	65.1	28.5	-10.0	7.7	52.8	10.4	CLEAR	CLEAR
38	ANDERSON	TEMPY LOC	2.0	147.6	65.1	28.5	-10.0	7.7	52.8	10.4	CLEAR	CLEAR
39	ANDERSON	TEMPY LOC	2.0	147.6	65.1	28.5	-10.0	7.7	52.8	10.4	CLEAR	CLEAR
40	ANDERSON	TEMPY LOC	2.0	147.6	65.1	28.5	-10.0	7.7	52.8	10.4	CLEAR	CLEAR
41	ANDERSON	TEMPY LOC	2.0	147.6	65.1	28.5	-10.0	7.7	52.8	10.4	CLEAR	CLEAR
42	SWEAT MTN	WSB-TV ENG	2.0	35.0	289.3	163.6	-10.0	7.2	5.9	-1.1	1.3	CLEAR
43	SWEAT MTN	WSB-TV ENG	2.0	35.0	289.3	163.6	-10.0	7.2	5.9	-1.1	1.3	CLEAR
44	SWEAT MTN	WSB-TV ENG	2.0	35.0	289.3	163.6	-10.0	7.2	5.9	-1.1	1.3	CLEAR
45	TEMPY RX	TEMPY LOC	2.0	174.8	134.1	41.0	-10.0	6.3	111.5	74.1	CLEAR	CLEAR
46	TEMPY RX	TEMPY LOC	2.0	174.8	134.1	41.0	-10.0	6.3	111.5	74.1	CLEAR	CLEAR
47	STONE MTN	WSB-TV ENG	2.0	18.1	194.4	101.1	-10.0	6.2	2.7	-0.7	3.5	CLEAR
48	STONE MTN	WSB-TV ENG	2.0	18.1	194.4	101.1	-10.0	6.2	2.7	-0.7	3.5	CLEAR
49	STONE MTN	WSB-TV ENG	2.0	18.1	194.4	101.1	-10.0	6.2	2.7	-0.7	3.5	CLEAR
50	STONE MTN	WSB-TV ENG	2.0	18.1	194.4	101.1	-10.0	6.2	2.7	-0.7	3.5	CLEAR
51	PEACHTREE	WSB-TV ENG	2.0	35.3	230.3	136.9	-10.0	3.7	5.9	-1.1	CLEAR	CLEAR
52	PEACHTREE	WSB-TV ENG	2.0	35.3	230.3	136.9	-10.0	3.7	5.9	-1.1	CLEAR	CLEAR
53	PEACHTREE	WSB-TV ENG	2.0	35.3	230.3	136.9	-10.0	3.7	5.9	-1.1	CLEAR	CLEAR
54	PEACHTREE	WSB-TV ENG	2.0	35.3	230.3	136.9	-10.0	3.7	5.9	-1.1	CLEAR	CLEAR
55	TEMPY RX	TEMPY LOC	2.0	172.3	250.7	157.1	-10.0	-0.6	75.0	33.1	CLEAR	CLEAR
56	TEMPY RX	TEMPY LOC	2.0	172.3	250.7	157.1	-10.0	-0.6	75.0	33.1	CLEAR	CLEAR

Antenna Type: 7.3 meter
Uplink Power: -14.4 dBW/4 kHz
Satellite Arc: Min Elevation 12.5 degrees
Objectives: Long Term: -154.0 dBW/4 kHz Short Term: -131.0 dBW/4 kHz