

2002 Edmund Halley Drive

Reston, VA 20191 USA

(703) 620-6300

Fax (703) 476-2720

<http://www.comsearch.com>

COMSEARCH

October 14, 1998

Mr. Claude Wells
Lockheed Martin

Re: Interference Analysis
Norristown, Pa.
2.4 Meter C-band T/R Earth Station

Dear Mr. Wells:

We have completed our analysis of your proposed 2.4 Meter C-band Transmit/Receive earth station in Norristown, Pennsylvania. The following report summarizes the potential interference conflicts that were identified in this analysis.

The analysis identified 64 potential interference conflicts with 6 GHz terrestrial microwave receivers within the coordination contours of the proposed earth station location. Terrain path profiles were conducted and sufficient pathloss was identified to resolve 60 of these cases. Table 1 provides a summary of all the cases identified in this analysis. The remaining interference conflicts are as follows:

<u>Path Name</u>	<u>Azimuth (Degrees)</u>	<u>Predicted Line of Sight Margin (dB)</u>	<u>Remaining Margin (dB)</u>
Boyertown - Roxborough	313.5	13.0	6.2
Honey Brook - Ivy Hill	270.8	8.5	0.3
Roxborough - Boyertown	116.7	8.1	8.1
Ivy Hill - Honey Brook	103.6	0.8	0.8

Table 2 provides a summary of the coordinated frequencies for each of these microwave receivers.

Since the proposed earth stations transmissions will be limited to a single uplink carrier centered at a frequency of 6192.3 MHz on the GE 2 satellite, the cases with the receivers at Honey Brook and Roxborough can be eliminated through frequency offset.

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The case with the MCI receiver at Boyertown can be cleared on their growth frequency of 6197.24, since MCI indicates that this frequency has not been activated.

The case with the Ivy Hill receivers is less than 1 dB and routine Coordination would not report this as a potential conflict.

Based on this analysis the uplink frequency of 6192.3 MHz should be clear of interference with all terrestrial microwave receivers within the coordination contours of the proposed earth stations.

Sincerely,

COMSEARCH

Gary K. Edwards
Manager Satellite Services

Enclosures

Table 1
INTERFERENCE CASE SUMMARY
NORRISTOWN, PENNSYLVANIA

	PATH ID	BAND	DIST (KM)	AZ (DEG)	ES DISC (DEG)	ES GAIN (DBI)	LOS REQ'D (DB)	OH 20% (DB)	LOSS 0.0025% (DB)	REVISED 20% (DB)	MARGIN 0.0025% (DB)
1.	MILMAY	6	89.4	148.6	59.1	-10.0	29.1	51.1	18.9	CLEAR	CLEAR
2.	MILMAY	6	89.4	148.6	59.1	-10.0	26.1	51.0	18.8	CLEAR	CLEAR
3.	MILMAY	6	89.4	148.6	59.1	-10.0	26.1	51.0	18.8	CLEAR	CLEAR
4.	HAMMONTON	6	76.8	136.1	67.4	-10.0	25.3	38.8	18.9	CLEAR	CLEAR
5.	NEWARK	*	125.3	56.9	123.0	-10.0	23.7	49.3	14.8	CLEAR	CLEAR
6.	NEWARK	*	125.3	56.9	123.0	-10.0	23.7	49.4	14.9	CLEAR	CLEAR
7.	NEWARK	*	125.3	56.9	123.0	-10.0	23.7	49.3	14.8	CLEAR	CLEAR
8.	NEWARK	*	125.3	56.9	123.0	-10.0	23.7	49.4	14.9	CLEAR	CLEAR
9.	HUNTERSTOWN	6	154.4	260.4	72.4	-10.0	22.0	50.5	16.9	CLEAR	CLEAR
10.	LITTLE MT	*	132.9	279.7	86.3	-10.0	22.0	50.0	15.7	CLEAR	CLEAR
11.	LITTLE MT	*	132.9	279.7	86.3	-10.0	22.0	50.0	15.7	CLEAR	CLEAR
12.	HUNTERSTOWN	6	154.4	260.4	72.4	-10.0	20.2	50.6	17.1	CLEAR	CLEAR
13.	NESCOPECK M*BEARS HEAD	*	119.1	325.4	119.0	-10.0	17.8	90.8	56.5	CLEAR	CLEAR
14.	NESCOPECK M*BEARS HEAD	*	119.1	325.4	119.0	-10.0	17.8	90.8	56.5	CLEAR	CLEAR
15.	MANADA GAP	6	112.7	286.4	91.3	-10.0	14.3	52.1	21.1	CLEAR	CLEAR
16.	BLUE BALL	6	39.0	197.8	42.3	-8.7	13.5	26.5	18.1	CLEAR	CLEAR
17.	BRANDYWINE	6	39.0	197.8	42.3	-8.7	13.5	26.5	18.1	CLEAR	CLEAR
18.	BOYERTOWN	6	33.3	313.5	110.9	-10.0	13.0	6.8	-0.3	6.2	CLEAR
19.	BOYERTOWN	6	33.3	313.5	110.9	-10.0	13.0	8.9	1.8	4.1	CLEAR
20.	SALEM	6	61.4	185.2	42.9	-8.8	10.9	55.2	35.9	CLEAR	CLEAR
21.	UPPER TWP	6	117.1	147.8	59.5	-10.0	10.2	52.8	18.3	CLEAR	CLEAR
22.	UPPER TWP	6	117.1	147.8	59.5	-10.0	10.2	52.8	18.3	CLEAR	CLEAR
23.	UPPER TWP	6	117.1	147.8	59.5	-10.0	10.2	52.8	18.3	CLEAR	CLEAR
24.	HARRISBURG *DEODATE	*	126.0	277.3	84.6	-10.0	9.8	53.4	18.9	CLEAR	CLEAR
25.	HARRISBURG *DEODATE	*	126.0	277.3	84.6	-10.0	9.8	53.9	19.4	CLEAR	CLEAR
26.	MECHANICSBR*MTSO	*	136.0	276.9	84.3	-10.0	8.6	53.7	19.5	CLEAR	CLEAR
27.	HONEY BROOK*IVY HILL	*	40.0	270.8	79.8	-10.0	8.5	8.2	-0.5	0.3	CLEAR
28.	HONEY BROOK*IVY HILL	*	40.0	270.8	79.8	-10.0	8.5	11.0	2.3	CLEAR	CLEAR
29.	HONEY BROOK*IVY HILL	*	40.0	270.8	79.8	-10.0	8.5	8.2	-0.5	0.3	CLEAR
30.	HONEY BROOK*IVY HILL	*	40.0	270.8	79.8	-10.0	8.5	11.0	2.3	CLEAR	CLEAR
31.	ROXBOROUGH BOYERTOWN	6	16.3	116.7	81.2	-10.0	8.1	0.0	0.0	8.1	CLEAR

ANTENNA TYPE: FCC Reference 32-25LOG(THETA)
UPLINK POWER: -4.0 dBW/ 4kHz

SATELLITE ARC: 85.0 W - 85.0 W DEGREES
OBJECTIVES: -154.0 dBW -131.0 dBW

Table 1
INTERFERENCE CASE SUMMARY
NORRISTOWN, PENNSYLVANIA

	PATH ID	BAND	DIST (KM)	AZ (DEG)	ES DISC (DEG)	ES GAIN (DBI)	LOS LOSS REQ'D (DB)	OH 20% (DB)	LOSS 0.0025% (DB)	REVISED 20% (DB)	MARGIN 0.0025% (DB)
32.	ROXBOROUGH BOYERTOWN	6	16.3	116.7	81.2	-10.0	8.1	0.0	0.0	8.1	CLEAR
33.	HARRISBURG *DEODATE	6	126.1	277.4	84.6	-10.0	8.0	52.7	18.3	CLEAR	CLEAR
34.	N YORK CENTERVILLE	6	110.6	263.1	74.3	-10.0	6.4	49.8	20.1	CLEAR	CLEAR
35.	YORK *LANCASTER	6	110.5	263.1	74.3	-10.0	4.4	49.2	17.5	CLEAR	CLEAR
36.	OXFORD *W CHESTER	6	59.8	233.3	54.3	-10.0	4.3	26.9	15.7	CLEAR	CLEAR
37.	OXFORD *W CHESTER	6	59.8	233.3	54.3	-10.0	4.3	34.4	23.2	CLEAR	CLEAR
38.	LAUREL SPRG PHIL 3	6	48.4	133.4	69.2	-10.0	4.3	28.1	17.4	CLEAR	CLEAR
39.	LITTLE MTN *KEFFERS	6	135.9	302.3	102.9	-10.0	3.8	52.6	18.1	CLEAR	CLEAR
40.	GLASSBORO MICKLETON	6	53.3	152.5	56.6	-10.0	3.5	35.5	24.4	CLEAR	CLEAR
41.	YORK *LANCASTER	6	110.5	263.1	74.3	-10.0	3.2	49.0	17.8	CLEAR	CLEAR
42.	PEACH BTM P*FAGGS	6	84.2	241.8	59.8	-10.0	2.9	54.5	27.6	CLEAR	CLEAR
43.	CLAYTON PHILADELPHI	6	61.7	148.5	59.1	-10.0	2.6	42.8	31.6	CLEAR	CLEAR
44.	HONEY BROOK*IVY HILL	6	40.0	270.8	79.8	-10.0	2.5	8.2	-0.5	CLEAR	CLEAR
45.	HONEY BROOK*IVY HILL	6	40.0	270.8	79.8	-10.0	2.5	11.0	2.3	CLEAR	CLEAR
46.	CLAYTON SPECTRUM	6	61.7	148.5	59.1	-10.0	2.3	42.8	31.6	CLEAR	CLEAR
47.	WHITE HAVEN PENN FORRES	6	107.6	342.6	129.3	-10.0	1.3	58.2	26.4	CLEAR	CLEAR
48.	WHITE HAVEN PENN FOREST	6	107.6	342.6	129.3	-10.0	1.3	58.2	26.4	CLEAR	CLEAR
49.	WHITE HAVEN PENN FOREST	6	107.6	342.6	129.3	-10.0	1.3	58.2	26.4	CLEAR	CLEAR
50.	W ROCKHILL *ROXBOROUGH	6	29.1	9.9	138.1	-10.0	1.1	33.4	27.2	CLEAR	CLEAR
51.	W ROCKHILL *ROXBOROUGH	6	29.1	9.9	138.1	-10.0	1.1	33.4	27.2	CLEAR	CLEAR
52.	EAST WINDSO BORDENTOWN	6	79.2	78.8	108.7	-10.0	1.0	44.6	15.2	CLEAR	CLEAR
53.	IVY HILL *HONEY BROOK*	6	20.0	103.6	90.8	-10.0	0.8	0.0	0.0	0.8	CLEAR
54.	IVY HILL *HONEY BROOK*	6	20.0	103.6	90.8	-10.0	0.8	0.0	0.0	0.8	CLEAR
55.	IVY HILL *HONEY BROOK*	6	20.0	103.6	90.8	-10.0	0.8	0.0	0.0	0.8	CLEAR
56.	IVY HILL *HONEY BROOK*	6	20.0	103.6	90.8	-10.0	0.8	0.0	0.0	0.8	CLEAR
57.	IVY HILL *HONEY BROOK*	6	20.0	103.6	90.8	-10.0	0.8	0.0	0.0	0.8	CLEAR
58.	IVY HILL *HONEY BROOK*	6	20.0	103.6	90.8	-10.0	0.8	0.0	0.0	0.8	CLEAR
59.	SWAINTON MILMAY	6	122.7	154.1	55.7	-10.0	0.8	52.3	19.2	CLEAR	CLEAR
60.	SWAINTON MILMAY	6	122.7	154.1	55.7	-10.0	0.8	52.3	19.2	CLEAR	CLEAR
61.	COATESVILLE*BERWYN	6	35.3	248.2	64.0	-10.0	0.2	17.0	10.4	CLEAR	CLEAR
62.	BALTIMORE ABERDEEN	6	139.0	228.4	51.8	-10.0	0.2	53.9	20.8	CLEAR	CLEAR

ANTENNA TYPE: FCC Reference 32-25LOG (THETA)

UPLINK POWER: -4.0 dBW/ 4kHz

SATELLITE ARC: 85.0 W - 85.0 W DEGREES

OBJECTIVES: -154.0 dBW -131.0 dBW

Table 1
INTERFERENCE CASE SUMMARY
NORRISTOWN, PENNSYLVANIA

PATH ID	BAND	DIST (KM)	AZ (DEG)	ES DISC (DEG)	ES GAIN (DBI)	LOS LOSS REQ'D (DB)	OH 20% (DB)	LOSS 0.0025% (DB)	REVISED 20% (DB)	MARGIN 0.0025% (DB)
63.	BALTIMORE	139.0	228.4	51.8	-10.0	0.2	54.0	20.9	CLEAR	CLEAR
64.	CARNIES PT	43.1	185.2	42.9	-8.8	0.1	62.4	53.6	CLEAR	CLEAR
65.	RADNOR	10.6	161.8	51.4	-10.0	-0.2	0.0	0.0	CLEAR	CLEAR
66.	WHITE HAVEN PENN FORRES	107.6	342.6	129.3	-10.0	-0.2	0.0	0.0	CLEAR	CLEAR
67.	WHITE HAVEN PENN FOREST	107.6	342.6	129.3	-10.0	-0.2	0.0	0.0	CLEAR	CLEAR
68.	WHITE HAVEN PENN FOREST	107.6	342.6	129.3	-10.0	-0.2	0.0	0.0	CLEAR	CLEAR
69.	CINNAMINSON CLAYTON	39.3	109.0	86.8	-10.0	-0.6	0.0	0.0	CLEAR	CLEAR
70.	LANCASTER *BARON HILLS*	77.1	263.1	74.3	-10.0	-0.8	0.0	0.0	CLEAR	CLEAR
71.	LANCASTER *BARON HILLS*	77.1	263.1	74.3	-10.0	-0.8	0.0	0.0	CLEAR	CLEAR
72.	NEWTOWN CHATSWORTH	40.7	69.3	115.3	-10.0	-0.9	0.0	0.0	CLEAR	CLEAR
73.	HARRISBURG *WOMELSDORF *	128.0	281.2	87.4	-10.0	-1.1	0.0	0.0	CLEAR	CLEAR
74.	HARRISBURG *WOMELSDORF *	128.0	281.2	87.4	-10.0	-1.1	0.0	0.0	CLEAR	CLEAR
75.	SPRAY BEACH CHATSWORTH	117.9	120.6	78.3	-10.0	-1.2	0.0	0.0	CLEAR	CLEAR
76.	YARDS CREEK SCOTTS MTN	102.8	17.4	138.3	-10.0	-1.2	0.0	0.0	CLEAR	CLEAR
77.	HICKORY *DUBLIN *	100.7	233.0	54.2	-10.0	-1.2	0.0	0.0	CLEAR	CLEAR
78.	VINELAND CLAYTON	79.3	157.6	53.7	-10.0	-1.4	0.0	0.0	CLEAR	CLEAR
79.	NEWARK PR *BOUND BROOK*	123.8	56.8	123.1	-10.0	-1.7	0.0	0.0	CLEAR	CLEAR
80.	CORNWALL CONESTOGA	82.8	279.2	86.0	-10.0	-1.7	0.0	0.0	CLEAR	CLEAR
81.	LITITZ *EPHRATA *	83.2	279.2	85.9	-10.0	-1.8	0.0	0.0	CLEAR	CLEAR
82.	MALVERN BRANDYWINE	13.0	220.0	48.2	-10.0	-2.0	0.0	0.0	CLEAR	CLEAR
83.	MALVERN BRANDYWINE	13.0	220.0	48.2	-10.0	-2.0	0.0	0.0	CLEAR	CLEAR
84.	SWEDESBORO BRANDYWINE	43.3	168.7	48.1	-9.9	-2.0	0.0	0.0	CLEAR	CLEAR
85.	KENNETT SQ BRANDYWINE	43.8	223.0	49.4	-10.0	-2.2	0.0	0.0	CLEAR	CLEAR
86.	MAYS LNDG HAMMONTON	97.7	140.5	64.3	-10.0	-2.2	0.0	0.0	CLEAR	CLEAR
87.	MONTOUR RDG*BOYERS KNOB*	144.2	310.4	108.6	-10.0	-2.4	0.0	0.0	CLEAR	CLEAR
88.	WILMINGTON CLAYTON	48.3	211.9	45.3	-9.4	-3.0	0.0	0.0	CLEAR	CLEAR
89.	BIRDSBORO *FRDRICKSVLE*	45.1	293.7	96.6	-10.0	-3.0	0.0	0.0	CLEAR	CLEAR
90.	EPHRATA 2 *WOMELSDORF *	64.5	275.0	82.9	-10.0	-3.1	0.0	0.0	CLEAR	CLEAR
91.	EPHRATA 2 *WOMELSDORF *	64.5	275.0	82.9	-10.0	-3.1	0.0	0.0	CLEAR	CLEAR
92.	BORDENTOWN WILLINGBORO	58.4	89.2	101.4	-10.0	-3.3	0.0	0.0	CLEAR	CLEAR
93.	BORDENTOWN WILLINGBORO	58.4	89.2	101.4	-10.0	-3.3	0.0	0.0	CLEAR	CLEAR

ANTENNA TYPE: FCC Reference 32-25LOG(THETA)
UPLINK POWER: -4.0 dBW/ 4kHz

SATELLITE ARC: 85.0 W - 85.0 W DEGREES
OBJECTIVES: -154.0 dBW -131.0 dBW

Table 2

Great Circle Interference Conflicts
10/14/98

Earth Station Name NORRISTOWN PA
 Latitude 40 7 31.3 N
 Longitude 75 24 34.4 W
 Ground Elevation (Ft/m) 225.0 / 68.6 AMSL ACL 37.0 Feet AGL
 Antenna Model FCC Reference 32-25LOG(THETA)
 Objectives: Receive -156.0 (dBW /1 MHz)
 Transmit -154.0 (dBW /4 kHz) TX Power -4.0 (dBW/4 kHz)

Terrestrial Path	Gnd	EDISCT	GES	FSLoss	Dist	PR	TPWR	Plan
Latitude Longitude	ACL	TDISCT	GTS	TANT	Az	Margin	LL	
Owner					Loading			
Freq/Pol								
18 BOYERTOWN PAROXBOROUGH PA 1062	110.9-10.0	138.73	33.3-141.0	29 HT				
40 19 53 75 41 39 WLJ35	194.	5.5 15.7	A74121	313.5 13.0	4			
P5192 : MCI TELECOMMUNICATIONS CORPORATION	2016CH	DIG RCN: 89011921						
6197.2400G 6226.8900V 6256.5400G 6286.1900V 6315.8400G 6345.4900V								
6375.1400G 6404.7900V								
Status: L	Equipment: 2Y2L01	Emission: 30M0F7W						
OH LOSS 20% / 0.0025%: 6.79/ -0.34								
19 BOYERTOWN PAROXBOROUGH PA 1062	110.9-10.0	138.73	33.3-141.0	29 HT				
40 19 53 75 41 39 WLJ35	114.	5.5 15.7	A74121	313.5 13.0	4			
P5192 : MCI TELECOMMUNICATIONS CORPORATION	2016CH	DIG RCN: 89011921						
6197.2400G 6226.8900V 6256.5400G 6286.1900V 6315.8400G 6345.4900V								
6375.1400G 6404.7900V								
Status: L DIVERSITY	Equipment: 2Y2L01	Emission: 30M0F7W						
OH LOSS 20% / 0.0025%: 8.90/ 1.77								
27 HONEY BROOK*PAIVY HILL *PA 1026	79.8-10.0	140.32	40.0-145.5	40 LT				
40 7 45 75 52 43 WAU264	140.	355.7 11.8	P86800	270.8 8.5	3			
P2820 : INTERMEDIA COMMUNICATIONS, INC.	2400CH	MSG RCN: 88091617						
5945.2000V 5974.8500G 6034.1500G 6063.8000U 6093.4500G 6123.1000V								
6152.7500G								
Status: L	Equipment: 2KU501	Emission: 30M0F8W						
OH LOSS 20% / 0.0025%: 8.18/ -0.52								
29 HONEY BROOK*PAIVY HILL *PA 1026	79.8-10.0	140.32	40.0-145.5	30 LT				
40 7 45 75 52 43 WAU264	140.	355.7 11.8	P86800	270.8 8.5	3			
P2820 : INTERMEDIA COMMUNICATIONS, INC.	2016CH	DIG RCN: 88101025						
5945.2000U 5974.8500H 6004.5000U 6034.1500G 6063.8000U 6093.4500H								
6123.1000U 6152.7500G								
Status: L	Equipment: 2Y6201	Emission: 30M0D7W						
OH LOSS 20% / 0.0025%: 8.18/ -0.52								

Table 2
(Continued)

31 ROXBOROUGH PABOYERTOWN PA 412 81.2-10.0 132.53 16.3-145.9 29 LT
 40 3 33 75 14 20 WOG70 181. 348.8 4.6 A74121 116.7 8.1 4
 P5192 : MCI TELECOMMUNICATIONS CORPORATION 2016CH DIG RCN: 89011921
 5945.2000U 5974.8500H 6004.5000U 6034.1500H 6063.8000U 6093.4500H
 6123.1000U 6152.7500H
 Status: L Equipment: 2Y2L01 Emission: 30M0F7W
 OH LOSS 20% / 0.0025%: 0.00/ 0.00

32 ROXBOROUGH PABOYERTOWN PA 412 81.2-10.0 132.53 16.3-145.9 29 LT
 40 3 33 75 14 20 WOG70 126. 348.8 4.6 A74121 116.7 8.1 4
 P5192 : MCI TELECOMMUNICATIONS CORPORATION 2016CH DIG RCN: 89011921
 5945.2000U 5974.8500H 6004.5000U 6034.1500H 6063.8000U 6093.4500H
 6123.1000U 6152.7500H
 Status: L DIVERSITY Equipment: 2Y2L01 Emission: 30M0F7W
 OH LOSS 20% / 0.0025%: 0.00/ 0.00

53 IVY HILL *PAHONEY BROOK*PA 412 90.8-10.0 134.30 20.0-153.2 40 HT
 40 4 58 75 10 54 WAU263 290. 8.6 -1.9 A79516 103.6 0.8 3
 P2820 : INTERMEDIA COMMUNICATIONS, INC. 1 CH FMV RCN: 90082014
 6197.2400H 6226.8900V 6256.5400H 6315.8400H 6345.4900V 6375.1400H
 Status: L Equipment: 2KU501 Emission: 30M0F8W
 OH LOSS 20% / 0.0025%: 0.00/ 0.00

54 IVY HILL *PAHONEY BROOK*PA 412 90.8-10.0 134.30 20.0-153.2 40 HT
 40 4 58 75 10 54 WAU263 248. 8.6 -1.9 A79516 103.6 0.8 3
 P2820 : INTERMEDIA COMMUNICATIONS, INC. 1 CH FMV RCN: 90082014
 6197.2400H 6226.8900V 6256.5400H 6315.8400H 6345.4900V 6375.1400H
 Status: L DIVERSITY Equipment: 2KU501 Emission: 30M0F8W
 OH LOSS 20% / 0.0025%: 0.00/ 0.00

55 IVY HILL *PAHONEY BROOK*PA 412 90.8-10.0 134.30 20.0-153.2 40 HT
 40 4 58 75 10 54 WAU263 290. 8.6 -1.9 A79516 103.6 0.8 3
 P2820 : INTERMEDIA COMMUNICATIONS, INC. 2400CH MSG RCN: 88091617
 6197.2400H 6226.8900U 6286.1900U 6315.8400G 6345.4900U 6375.1400H
 6404.7900U
 Status: L Equipment: 2KU501 Emission: 30M0F8W
 OH LOSS 20% / 0.0025%: 0.00/ 0.00

56 IVY HILL *PAHONEY BROOK*PA 412 90.8-10.0 134.30 20.0-153.2 40 HT
 40 4 58 75 10 54 WAU263 248. 8.6 -1.9 A79516 103.6 0.8 3
 P2820 : INTERMEDIA COMMUNICATIONS, INC. 2400CH MSG RCN: 88091617
 6197.2400H 6226.8900U 6286.1900U 6315.8400G 6345.4900U 6375.1400H
 6404.7900U
 Status: L DIVERSITY Equipment: 2KU501 Emission: 30M0F8W
 OH LOSS 20% / 0.0025%: 0.00/ 0.00

57 IVY HILL *PAHONEY BROOK*PA 412 90.8-10.0 134.30 20.0-153.2 30 HT
 40 4 58 75 10 54 WAU263 290. 8.6 -1.9 A79516 103.6 0.8 3
 P2820 : INTERMEDIA COMMUNICATIONS, INC. 2016CH DIG RCN: 88101025
 6197.2400G 6226.8900U 6256.5400G 6286.1900V 6315.8400G 6345.4900U
 6375.1400G 6404.7900V
 Status: L Equipment: 2Y6201 Emission: 30M0D7W

Table 3

SATELLITE EARTH STATION
FREQUENCY COORDINATION DATA
10/14/98

Company	LOCKHEED MARTIN	
Earth Station Name, State	NORRISTOWN, PA	
Latitude (DMS)	40 7 31.3 N	
Longitude (DMS)	75 24 34.4 W	
Ground Elevation AMSL (Ft/m)	225.0 / 68.6	
Antenna Centerline AGL (Ft/m)	37.0 / 11.3	
Receive Antenna Type:	FCC32	FCC Reference
		32-25LOG(THETA)
4 GHz Gain (dBi) / Diameter (m)		38.0 / 2.4
3 dB / 15 dB Half Beamwidth		0.50 / 1.20
Transmit Antenna Type:	FCC32	FCC Reference
		32-25LOG(THETA)
6 GHz Gain (dBi) / Diameter (m)		41.9 / 2.4
3 dB / 15 dB Half Beamwidth		0.60 / 1.40
Operating Mode	TRANSMIT AND RECEIVE	
Modulation	DIGITAL	
Emission / Receive Band (MHz)	200KG7D / 3700 - 4200	
Emission / Transmit Band (MHz)	200KG7D / 6192.3	
Max. Available RF Power (dBW)/4 kHz	-3.96	
(dBW)/MHz	20.04	
Max. EIRP (dBW)/4 kHz	37.94	
(dBW)/MHz	61.94	
Max permissible Interference Power		
4 GHz, 20% (dBW/1 MHz)	-156.0	
4 GHz, 0.0100% (dBW/1 MHz)	-146.0	
6 GHz, 20% (dBW/4 kHz)	-154.0	
6 GHz, 0.0025% (dBW/4 kHz)	-131.0	
Range of Satellite Arc (Geostationary)		
Degrees Longitude	85.0 W / 85.0 W	
Azimuth Range (Min/Max)	194.7 / 194.7	
Corresponding Elevation Angles	42.5 / 42.5	
Radio Climate	A	
Rain Zone	2	
Max Great Circle Coordination Distance (Mi/Km)		
4 GHz	181.4 / 291.9	
6 GHz	105.5 / 169.8	
Precipitation Scatter contour radius (Mi/Km)		
4 GHz	62.1 / 100.0	
6 GHz	62.1 / 100.0	