INTERNATIONAL CIVIL AVIATION ORGANIZATION
NORTH AMERICAN, CENTRAL AMERICAN AND CARIBBEAN OFFICE

TWENTY-NINTH MEVA TECHNICAL MANAGEMENT GROUP MEETING

(MEVA/TMG/29)

REPORT

MEXICO CITY, MEXICO, 9 TO 12 DECEMBER 2014

Prepared by the Secretariat

December 2014

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HISTORICAL

ii.1 Place and Date of the Meeting

The Twenty-ninth MEVA Technical Management Group Meeting (MEVA/TMG/29) was held at the ICAO NACC Regional Office in Mexico City, Mexico, from 9 to 12 December 2014.

ii.2 Opening Ceremony

Mr. Jorge Fernandez, Acting Regional Director of the North American, Central American and Caribbean (NACC) Office of the International Civil Aviation Organization (ICAO), welcomed the participants, highlighted the different activities accomplished since the selection of the new MEVA III Service Provider up to the current implementation activities to be discussed in this meeting, particularly the final transition elements from MEVA II and the start of the MEVA III network implementation activities. Mr. Julio Siu, ICAO NACC Regional Officer, Communications, Navigation and Surveillance recalled the objectives of the meeting and the need to make all the clarifications need from the MEVA Service Providers for an efficient and successful MEVA III implementation. Finally Ms. Dulce Roses, MEVA TMG Coordinator welcomed the participants and emphasized the work to be conducted for the meeting, thanked the members for their participation and officially opened the Meeting.

ii.3 Officers of the Meeting

The MEVA/TMG/29 Meeting was held with the participation of the MEVA TMG Coordinator and MEVA III Taskforce Rapporteur, Ms. Dulce Roses and Mr. Olivier Delperdange, respectively. Ms Dulce Roses chaired the meeting plenary. Mr. Julio Siu served as Secretary of the Meeting, assisted by Ms. Roses and Mr. Delperdange.

ii.4 Working Languages

The working language of the Meeting was English and working papers, information papers, presentations and draft report of the meeting were available to participants in said language.

ii.5 Schedule and Working Arrangements

It was agreed that the working hours for the sessions of the meeting would be from 09:00 to 15:30 hours daily with adequate breaks. Ad hoc Groups were created during the Meeting to do further work on specific items of the Agenda.

ii.6 Agenda

Agenda Item 1: Review and approval of Draft Agenda and Schedule

Agenda Item 2: Review of Conclusions and Actions from Previous MEVA/TMG Meetings

Agenda Item 3: Operation and Performance of the MEVA II Network and Transition to MEVA III

- 3.1 MEVA Network Performance and Maintenance: 05/2014-12/2014
- 3.2 Review of Pending Maintenance Issues

Agenda Item 4: MEVA III Implementation Activities

- 4.1 MEVA III Task Force Report and Activities
- 4.2 MEVA III Documentation Review and Approval
- 4.3 MEVA III Interconnection Matters
- 4.4 MEVA II - MEVA III Transition Plan Matters
- 4.5 MEVA III Implementation Plan

Agenda Item 5: World Radiocommunication Conference (2015) (WRC-2015) Activities

Agenda Item 6: Review of MEVA/TMG Terms of Reference (ToRs) and Work Programme

Agenda Item 7: Other Matters

- 7.1 Aviation System Block Upgrade (ASBU) Implementation and Support review
- 7.2 MEVA III Go-teams
- 7.3 Next MEVA/TMG Meeting Preparations

ii.7 Attendance

The Meeting was attended by 11 States/Territories, 2 International Organization and the MEVA II and MEVA III Service Providers, totalling 35 delegates as indicated in the list of participants.

ii.8 List of Conclusions

The Meeting recorded its activities as Conclusions as follows:

CONCLUSIONS: Activities approved by the MEVA Members

ii.9 List of Working and Information Papers and Presentations

Refer to the Meeting web page:
https://authoring2010.icao.int/NACC/Pages/meetings-2014-mevatmg29.aspx

The final list of documentation will be included in the final version of the Report.

WORKING PAPERS

Number	Agenda Item	Title	Date	Prepared and Presented by
WP/01	1	Provisional Agenda, Work Method and Schedule of the Twenty-ninth MEVA Technical Management Group Meeting (MEVA/TMG/29)	19/11/14	Secretariat
WP/02	2	Review of previous valid TMG Conclusions	01/12/14	MEVA TMG Coordinator
WP/03	3.1	MEVA Network Performance and Maintenance: 05/2014-12/2014 – Transition Issues	04/12/14	SES
WP/04	3.2	Review of Pending Maintenance Issues	04/12/14	COCESNA
WP/05	4.1	MEVA III Task Force Report	04/12/14	MEVA III Task Force Rapporteur
WP/06	4.1	MEVA III – Additional Circuits Considerations	04/12/14	MEVA III TF Ad hoc Group
WP/07	4.2	MEVA III Documentation Review and Approval	07/12/14	MEVA III Task Force Rapporteur
WP/08	4.2	MEVA III Website- Trouble Ticket Mechanism	02/12/14	Jamaica
WP/09	4.3	MEVA III - REDDIG II Interconnection: documentation	07/12/14	MEVA III Task Force Rapporteur
WP/10	4.3	MEVA -REDDIG Interconnection: Review of Procedures and Agreements	19/11/14	Secretariat
WP/11	4.3	MEVA - E/CAR AFS Network Interconnection	19/11/14	Secretariat
WP/12; WP/13; WP/14	4.4; 4.5	COMSOFT Presentation for MEVA III TMG/29	10/12/14	COMSOFT
WP/15	5	The ICAO Position for the International Telecommunication Union (ITU) World Radiocommunication Conference (2015) (WRC 15) and State support requested	19/11/14	Secretariat
WP/16	6	Review of MEVA/TMG Terms of Reference (ToRs) and Work Programme	08/12/14	MEVA TMG Coordinator
WP/17	7.1	Aviation System Block Upgrade (ASBU) Implementation for inclusion in MEVA/TMG activities	19/11/14	Secretariat
WP/18	7.2	MEVA III *Go-Teams*: Supporting Tool from the ICAO Technical Cooperation Project (RLA/09/801) – Implementation of Performance-Based Air Navigation Systems for the CAR Region	19/11/14	Secretariat

WORKING PAPERS

Number	Agenda Item	Title	Date	Prepared and Presented by
WP/19	7.3	Future MEVA/TMG Meetings	19/11/14	Secretariat
WP/20	4.1	MEVAII Voice Switched Circuits Statistics Tendency Study	19/11/14	Cuba
WP/21	5	Coordination and Notification of Earth Stations in C band in order to be recorded in the ITU Master Register (MIFR)	02/12/14	Radiocommunication Bureau, ITU
WP/22	4.2	MEVA III Testing	04/12/14	Federal Aviation Administration

INFORMATION PAPERS

Number	Agenda Item	Title	Date	Prepared and Presented by
IP/01	---	List of Working and Information Papers	08/12/14	Secretariat

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Agenda Item 1 Review and approval of Draft Agenda and Schedule

1.1 Under WP/01, the Secretariat invited the Meeting to approve the provisional agenda and schedule and referred to IP/01 with the list of associated documentation and presentations. The Meeting approved the agenda as presented in the historical section of this report.

Agenda Item 2 Review of Conclusions and Actions from Previous MEVA/TMG Meetings

2.1 Under WP/02, the Meeting reviewed the valid conclusions from the MEVA TMG/28 Meeting and followed-up on their progress. In summary, all conclusions were considered completed or superseded. The **Appendix A** presents the follow-up made to these conclusions.

2.2 To supersede conclusions 28/02 the following conclusion was adopted:

CONCLUSION
MEVA TMG/29/01 – CONTINUATION OF ACTIVITIES FOR MEVA/REDDIGINTERCONNECTION AFTN DATA CIRCUIT WITH BRAZIL

That United States continue the coordination with Brazil to complete final testing of AFTN data circuit Atlanta-Manaus and have the data circuit implemented through the MEVA III Network by the first semester of 2015.

Agenda Item 3 Operation and Performance of the MEVA II Network and Transition to MEVA III

3.1 MEVA Network Performance and Maintenance: 05/2014-12/2014

3.1.1 Under WP/03, the MEVA II Service Provider, SES, presented information on the operation and performance of the MEVA II Network from May 2014 through Nov/Dec 2014, highlighting the following:

a) Opened 62 trouble tickets. SES informed that most of these tickets were related to customer and MEVA II equipment issues as follows in figure 1 and figure 2:

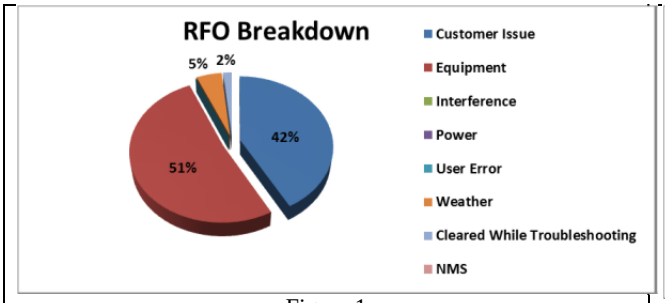


Figure 1

- 51% RFOs are equipment related
- 42% RFOs are customer issues

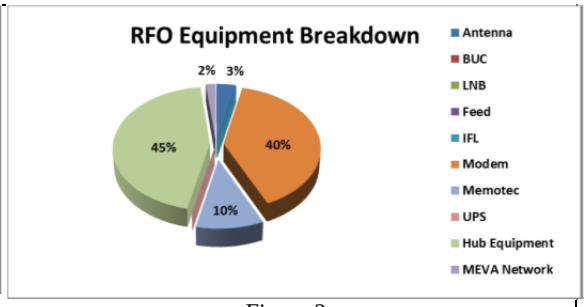


Figure 2

- 40% are Modem related
- 45% are Hub Equipment

b) The problems in the voice and data Santo Domingo-FAA circuits revealed several systemic issues within MEVA II network that were corrected by changing the BUC and adjusting the antenna.

3.1.2 Regarding the link performance from May – November 2014, it was informed by SES that:

a) Average link availability was greater than 99.9% across the MEVA II network.
b) Overall assessment, included:
   - elimination un-used circuits to make more efficient use of bandwidth, improving availability
   - current bandwidth (4.9MHz) is enough to support all existing / contracted voice and data circuits
   - 2x AMHS circuits are currently in service. Analysis shows if FAA decides to order more AMHS circuits, additional bandwidth will be required.

3.1.3 In this regard the MEVA III link availability figures were as shown in figure 3:

	Maximum		Minimum		Average		Down Time	Availability
Sites	Tx	Rx	Tx	Rx	Tx	Rx		
Aruba	79.02	75.14	16.00	16.00	58.75	61.97	5:26:08	99.89%
Curacao	154.78	153.36	44.41	45.06	119.11	117.35	2:00:55	99.96%
Dominican Republic	191.35	187.43	44.08	43.27	143.36	142.34	14:50:59	99.91%
Freeport	43.02	31.05	2.29	2.29	14.86	17.86	4:34:44	99.91%
Georgetown	114.49	117.06	32.00	32.00	89.46	91.80	0:26:29	99.99%
Haiti	92.08	90.51	19.59	20.57	60.38	60.65	2:10:15	99.96%
Havana, Cuba	257.63	258.12	50.61	48.65	203.84	206.34	2:03:12	99.96%
Kingston, Jamaica	176.33	175.02	49.31	49.96	132.83	131.15	1:59:13	99.96%
Miami	448.98	410.69	88.49	84.24	342.60	316.30	1:42:52	99.97%
Nassau	67.92	77.06	9.14	8.82	51.25	51.75	2:45:32	99.95%
Panama City	95.35	95.02	18.29	18.29	64.42	64.54	6:54:20	99.86%
St. Maarten	64.00	64.00	12.41	12.41	50.07	50.63	2:32:20	99.95%
COCESNA	79.15	77.63	13.14	13.14	43.12	42.83	7:33:55	99.85%
San Juan, PR	100.08	100.74	18.86	18.29	78.71	78.93	2:00:03	99.96%
Bogota	75.48	76.41	0.00	0.00	50.25	51.12	27:15:20	99.46%
Caracas	66.45	67.76	5.49	5.49	46.18	47.33	20:32:03	99.60%
Atlanta	354.63	346.74	0.00	0.00	237.69	232.82	9:23:32	99.61%

Figure 3 Network Link availability

3.1.4 The Meeting considered that the availability results were not accurate, showing discrepancy between the downtime and the percentage of availability. Also it was noted that 6 sites show less than 99.9% link availability (circled in RED). SES informed that an outage credit determination was done in May 2014 and so a new one will be conducted to cover up to the beginning of March 2015 to reflect it on the last invoice of the MEVA II Service. In this regard, the following conclusion was formulated:

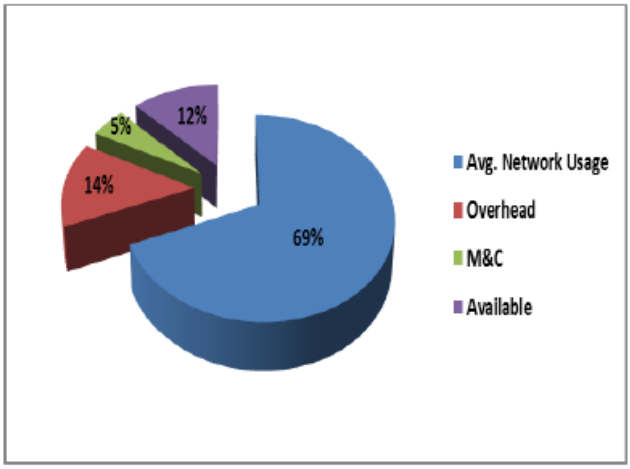
CONCLUSION
MEVA TMG/29/02 MEVA II NETWORK AVAILABILITY AND CREDIT CONSIDERATIONS FOR LAST MEVA II SERVICE INVOICE

That considering several MEVA II sites resulted with less than 99 % link availability, SES:

a) Inform the MEVA Members by 13 March 2015 about the MEVA II Network availability and corresponding credits for the period May 2014 to March 2015; and

b) Apply the applicable credits to the last invoice of the MEVA II Service.

3.1.5 SES informed that the average peak BW usage, overhead and M&C was 88% of total bandwidth. The average bandwidth usage for May- Nov 2014 was presented in figure 4:



Alloted Information Rate	5160
Avg. Network Usage	3552.59
Overhead	710.52
M&C	258.00
Available	638.89

Figure 4 Average bandwidth usage

3.1.6 SES informed on the call detailed records from May- Nov 2014 as follows in figures 5 and 6. The Meeting observed several inconsistencies with this data particularly with the outgoing and ingoing calls from all the MEVA sites.

	Aruba	Curacao	Dominican Republic	Freeport	Grand Cayman	Haiti	Havana, Cuba	Kingston, Jamaica	Miami	Nassau	Panama City	San Juan, PR	COCESNA	St. Maarten	Bogota	Caracas	TOTAL OUTGOING CALLS
Aruba	11	26	0	0	0	0	0	5	4	0	0	3	0	0	0	29	78
Curacao	0	0	86	0	0	12	0	30	0	0	0	22	0	0	47	299	496
Dominican Republic	0	5496	23	0	0	4031	0	0	5418	0	0	5452	0	0	0	0	20420
Freeport	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Cayman	0	0	0	0	100	0	8485	29	0	0	0	0	1017	0	0	0	9631
Haiti	0	136	870	0	0	0	78	263	2	0	0	0	0	0	0	0	1349
Havana, Cuba	0	0	0	0	110	30	6	33	25	0	0	0	415	0	0	0	619
Kingston, Jamaica	0	273	0	0	0	69	4	0	0	0	541	0	138	0	510	0	1535
Miami	0	0	13207	11315	5	106	1042	6	12	4515	0	3	2	0	0	0	30213
Nassau	0	0	0	389	0	0	0	0	13131	13	0	0	0	0	0	0	13533
Panama City	0	0	0	0	0	0	0	2396	0	0	45	0	5189	0	16372	0	24002
COCESNA	0	0	0	0	108	0	1542	935	0	0	3347	0	2	0	59	0	5993
San Juan, PR	0	854	5902	0	0	0	0	0	0	0	0	62	0	71	0	1934	8823
St. Maarten	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	N/A
Bogota	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	N/A
Caracas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	N/A
TOTAL INCOMING CALLS	11	6785	20088	11704	323	4248	11157	3697	18592	4528	3933	5542	6763	71	16988	2262	

Figure 5. Call detailed records for May- Nov 2014

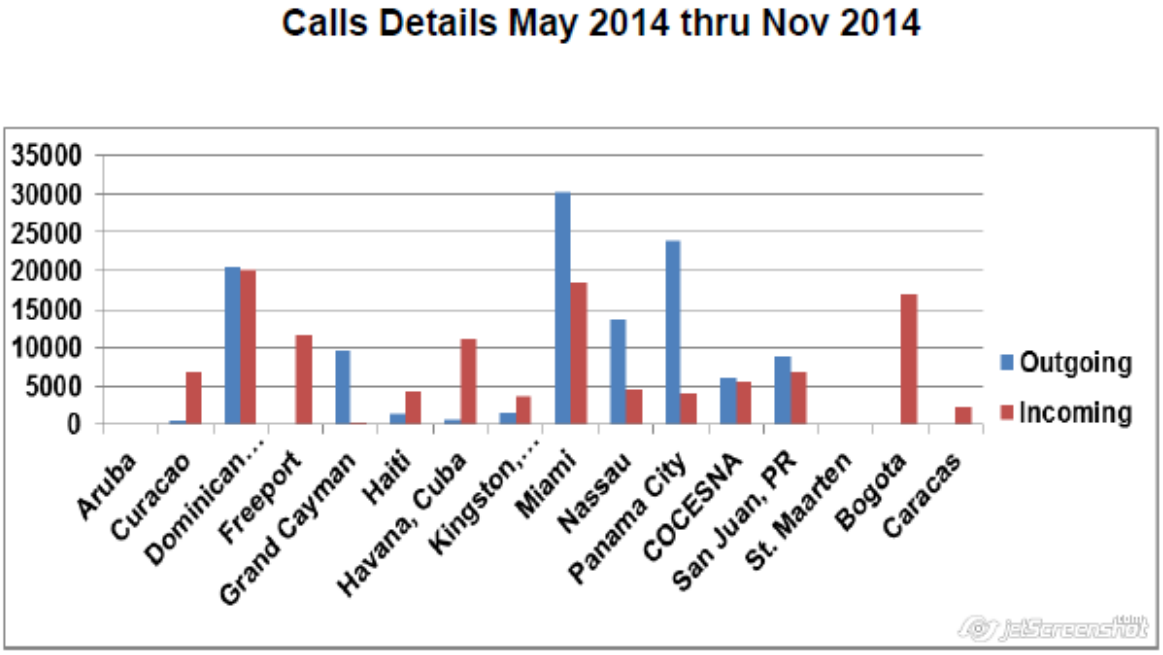


Figure 6: out and ingoing calls

3.1.7 Regarding the recent maintenance activities conducted by SES:

- Conducted complete network power balancing and identified and visited nine (9) sites to conduct antenna peak and pol to eliminate a X-pol interference and improve power usage & network performance, with the following results (figure 7):

SITE NAME	X-POL ISOLATION (dB)		BUC POWER (dBM)		BACK UP BUC POWER (dBM)		Final BUC Watts	
	BEFORE	AFTER	BEFORE	AFTER	BEFORE	AFTER	On-Line	Spare
Aruba, Aruba	16.0	30.0	43.6	40.5			11.2	
Bahamas, Freeport	15.0	27.0	45.0	40.0			10	
Bahamas, Nassau			46.7	45.6			36.3	
Cayman Islands, Grand Cayman			47.3	43.8			24	
COCESNA, Honduras, Tegucigalpa	32.4	35.8	47.6	41.9			15.5	
Cuba, Havana (ICAO)	22.0	28.1	45.4	41.7			14.8	
Dominican Republic, Santo Domingo	20.1	35.0	47.2	45.0			31.6	
Haiti, Port-Au-Prince			44.1	43.8			24	
Netherlands Antilles, Curacao			47.3	43.7			23.4	
Sint Maarten	26.0	30.9	47.4	43.3			21.4	
Panama, Panama (ICAO)	Can not access the Cisco Switch remotelly							
Jamaica, Kingston			46.7	43.7			23.4	
Merida, Mexico								
San Juan, PR	21.6	24.5	46.2	45.4			34.7	
Atlanta	21.0	31.0	45.4	45.8	45.3	46.1	38	40.7
Miami	25.9	34.1	42.1	38.4	44.4	40.3	6.9	10.7

Figure 7 X-POL isolation and BUC power values – May 2014

- Another power adjustment check was conducted on Dec 8, 2014, resulting in the values shown in figure 8:

SITE NAME	X-POL ISOLATION (dB)		BUC POWER (dBM)		PREVIOUS BUC Watts (May 14)		ACTUAL BUC Watts (Dec 14)	
	BEFORE May 14	AFTER Dec 14	PREVIOUS May 14	ACTUAL Dec 14	On-Line	Spare	On-Line	Spare
Aruba, Aruba	30.0		40.5	**40.6**	11.2		**11.5**	
Bahamas, Freeport	27.0		40.0	**41.7**	10		**14.3**	
Bahamas, Nassau		**18.6**	45.6	**46.8**	36.3		**47.9**	
Cayman Islands, Grand Cayman			43.8	**44.1**	24		**25.7**	
COCESNA, Honduras, Tegucigalpa	35.8		41.9	**41.3**	15.5		**13.5**	
Cuba, Havana (ICAO)	28.1		41.7	**42.1**	14.8		**16.2**	
Dominican Republic, Santo Domingo	35.0	**29.0**	45.0	**47.1**	31.6		**51.3**	
Haiti, Port-Au-Prince			43.8	**43.3**	24		**21.4**	
NethErlangds Antilles, Curacao			43.7	**43.1**	23.4		**20.4**	
Sint Maarten	30.9		43.3	**44.0**	21.4		**25.1**	
Panama, Panama (ICAO)	Can not access the Cisco Switch remotelly							
Jamaica, Kingston			43.7	**43.8**	23.4		**24**	
Merida, Mexico								
San Juan, PR	24.5	**22.7**	45.4	**46.0**	34.7		**39.8**	
Atlanta	31.0		45.8	**46.0**	38	40.7	**39.8**	**39.8**
Miami	34.1		38.4	**38.1**	6.9	10.7	**6.5**	**6.8**

Figure 8 : Dec 8 Power values

- Atlanta ANCC server (Sun computer) hard drive crashed and a replacement server was installed.
- No preventive maintenance visits are planned for 2015

3.1.8 From these maintenance activities, SES commented that:

- Santo Domingo 3.8 M antenna needs immediate replacement.
- Nassau & Freeport antenna feed polarizer rings (customer owned) are corroded and need replacement

3.1.9 Regarding the Dominican Republic antenna replacement, representatives from Dominican Republic, FAA, and SES met to discuss the degradation in Santo Domingo – Miami voice circuits that started on 8 November 2014 at which time the issue was reported to SES. On 20 November 2014 SES dispatched technicians from AIS to troubleshoot the problem. It was determined that the problem was with the antenna. At the time the following five options to resolve the problem were discussed:

- Purchase and replace defective antenna panels
- Purchase and replace the antenna
- Purchase larger BUC
- Install the contingency 3.8M fly-away antenna
- Re-Peak / Pol antenna & adjusted power

3.1.10 The Meeting was informed that SES Re-Peaked and Pol the antenna with a final reading on 20 November resulting in 29 dB isolation. Dominican Republic indicated they already purchased a new antenna and are waiting for the delivery scheduled within the next two weeks. This antenna is scheduled to be installed in the new building in February 2015; meantime Dominican Republic continues working with SES in parallel on another possible solution that could resolve the problem prior to February 2015.

3.1.11 The Meeting raised awareness of the high power values shown for Nassau, Santo Domingo and San Juan sites. A copy of these values was sent to the MEVA III Service Provider, Comsoft, for their respective action to ensure the MEVA III Transition. SES commented that nevertheless the sites were performing as requested in the contract and that improvements are expected with:

- the scheduled visit to San Juan Node for the peak and poll of the antenna, expected for December 2014
- the antenna replacement in Dominican Republic
- Replacement of antenna feed in Nassau and Freeport

3.1.12 In this regard, it was observed that the power values for Panama were missing and that Bahamas will work on finding the replacements needed looking into some available antennas in the Bahamas Family Islands and SES also express they support on this matter, so the Meeting agreed in the following conclusions:

CONCLUSION
MEVA TMG/29/03 – MEVA II BUC FINAL POWER VALUES

That, considering the importance of keeping the most efficient power values for an efficient and safe MEVA II- MEVA III Transition, SES:

a) Provide the BUC power value of the Panama MEVA Node by 19 December 2014;

b) Inform of the BUC power of the San Juan MEVA Node once its corresponding peak and poll antenna adjustment is made; and

c) Report no later than 16 January 2015 of any changes of the MEVA II BUC power values.

CONCLUSION
MEVA TMG/29/04– REPLACEMENT OF ANTENNA FEED IN NASSAU AND FREEPORT MEVA II NODES

That, in order to improve the BUC power level in the Bahamas MEVA II Nodes with the replacement of the antenna feed polarizer rings:

a) Bahamas search for the necessary antenna feed rings as soon as possible; and

b) SES will assist Bahamas as possible, for finding and replacing these rings as soon as possible prior to the installation of MEVA III.

3.1.13 SES informed on the follow-up to the action items made between SES and United States as well as an overview of the current MEVA II network spare inventory.

3.1.14 Regarding the transition activities for MEVA III, SES commented that:

- SES GS is working with ComSoft to support transition
- Met several times to discuss current status of MEVA II network as it related to transition
- Entered into agreement with ComSoft to remove the MEVA II SES GS owned equipment after transition is completed for all sites except San Juan & Cuba
- SES GS gained agreements with MEVA II sites to take ownership of the MEVA II equipment after transition to MEVA III is complete
- SES will remove the MEVA II equipment from the San Juan site
- Armando Hirardo will be the SES GS POC for the MEVA II – MEVA III transition

3.1.15 SES presented a contract milestone table concluding:

- That all MEVA Members, except COCESNA and Panama (ICAO) had signed and submitted the Service order for the extension of the MEVA II Service; however SES is directly contacting COCESNA and Panama for managing the pending Service Orders for its signature.
- All pending MEVA II payments with the MEVA Members are being handled by SES with the corresponding MEVA Members.

3.1.16 Finally the Meeting informed SES that the pending circuits (voice and data circuits Sint-Maarten – San Juan and the AMHS circuits between Atlanta and Curacao, Jamaica and Sint Maarten) will not be implemented through MEVA II.

3.2 Review of Pending Maintenance Issues

3.2.1 Under WP/04, the Meeting noted that apart from SES maintenance overview, the MEVA III Task Force consolidated and reviewed the list of pending maintenance issues of the MEVA II network, requesting the MEVA members their pending maintenance issues. Pending maintenance issues were only identified from the United States:

MEVA PENDING MAINTENANCE ISSUES	
MEVA Member	Description
FAA	Periodic issues with voice connections between Miami and Santo Domingo, Dominiocan Republic, both both switched and shoutline circuits. Voice will degrade to a point where it is unusable. Maintenance restores the quality but for only for a limited time.
FAA	Problems with voice and data circuits to the Bahamas. The data circuit in particular has never been very stable.
FAA	Continual issue with AFTN data circuits into ATL. Circuits will "glitch" every day or so. The X.25 circuits all simultaneously go down (lose link level) and then restore after a couple minutes.
FAA	Current issue with the Alternate Master Reference Terminal (AMRT) and Alternate Network Control Console (ANCC). There was no backup reference from June 2012 until May 2014 when it was restored at ATL. The AMRT failed again on Sep.16. and has been out through October and November.

3.2.2 The Meeting concluded that these pending maintenance issues had been covered with SES maintenance overview and no maintenance issues were identified with the MEVA II network.

Agenda Item 4 MEVA III Implementation Activities

4.1 MEVA III Task Force Report and Activities

MEVA III Task Force Activities

4.1.1 Under WP/05, the Task Force Rapporteur presented the work done by the MEVA III Task Force in support of the implementation of the MEVA III Network and the status of completion of the various chapters of the MEVA III System Design Document (SDD).

4.1.2 It was recalled that since the TMG/28 Meeting, the MEVA III Task Force conducted five MEVA III TF teleconferences, three MEVA III TF / COMSOFT teleconferences, and one MEVA/TF/03 meeting during which the TF review the documentation delivered by COMSOFT. The MEVA III TF/3 report and teleconferences minutes are available in the MEVA III Website under the ICAO secure Portal.

4.1.3 During the MEVA/TF/03 Meeting the TF tackled the following:

- coordinated the Dial and the Interface Plans with all MEVA Members. The material was included in the MEVA III SDD.
- Provided initial comments to the MEVA III website.
- Ensured that COMSOFT is aware of the particularities of the MEVA-REDDIG interconnection through the Dial and Interface Plans.

4.1.4 The Meeting acknowledged and congratulated the Task Force for the work performed.

MEVA II voice switched circuits study

4.1.5 Cuba presented under WP/20, a study on MEVA II voice switched circuits, comparing the switch voice circuits use in MEVA II in 2013 and 2014 and how this can affect in the MEVA III network with the following conclusions:

a) the traffic tendency is to grow over 50 calls in the peak hour; and
b) this grow can cause a switched bandwidth overload in a heavy traffic hour.

4.1.6 Finally Cuba suggested two ways to solve this potential issue in the future:

- Assign more bandwidth to the switched voice circuits.
- Establish more direct circuits between the nodes with heavy switched voice traffic.

4.1.7 The Meeting thanked Cuba for the information and agreed that all MEVA Members were to analyse their switched voice circuits' performance together with the end users, and conduct the necessary actions for any improvement.

Document on Considerations for MEVA III Additional circuits

4.1.8 Under WP/06, the Meeting was informed by the MEVA III TF Ad-hoc group of the clarifications needed on the price for future circuits/ additional services during the life of the MEVA III Network. Two COMSOFT documents regarding the cost for additional channels were analysed:

- Commercial Offer "Options Upgrade" document dated 12 Dec 2103
- Workbook file containing a "Channel Cost Calculator"

4.1.9 In this regard, COMSOFT recalled that no fix prices were provided for new circuits/services and so explained the following table (table 1), which represents the worst case scenario and clarified:

a) Service (Circuits) fee is to be shared by both ends
b) Space Segment fee is to be applied for additional 100 KHz bandwidth if no more bandwidth is available to accommodate the new service/ circuit.
c) The Lease Site 1 and 2 fees are to be applied only if the equipment needed for the new service is not already installed. This amount is the same if just one card or more hardware is installed.
d) VHF-PTT typed circuit involved all E&M circuits
e) New voice switched circuit may be added with no additional bandwidth if the specified Erlang B call blocking probability is not exceeded

SERVICE	Service (Circuits)	Space Segment	Lease Site 1	Lease Site 2
Serial PAMA (up to 16 kbps)	100	500	125,75	125,75
FXS Channel	100	500	125,75	125,75
VHF-PTT	100	500	147,5	147,5
AMHS 64K IP	100	500		

Table 1

4.1.10 Comsoft also clarified that the "Channel Cost Calculator" was applicable for calculating the existing MEVA III node circuits (table 2).

Pos.	Description	Qty	MRC (in US$)	ext. MRC	MRC (in US$)	Duration (Months)	MRC Total (in US$)
01.	**Network Access** Spare Parts Services	1	150,00	150,00	**150,00**	60	**9.000,00**
02.	**Circuit Charges**						
	AFTN 9.6kbps synch		87,39	0,00		60	
	AFTN 2.4kbps		8,74	0,00		60	
	ATS Voice	0	113,61	0,00		60	
	Voice (DAMA)	0	10,49	0,00		60	
	AMHS 64kbps IP	0	419,48	0,00		60	
	TOTAL				0,00		0,00
03.	**Equipment Lease** Have to be calculated on seperatetely on each case	1	N/A	N/A	N/A	60	N/A

Table 2

4.1.11 In order to conduct the evaluation for additional circuits, the meeting requested Comsoft information on:

a) for table 1, to provide the site lease cost for an AMHS channel.
b) Periodic provision of the status of bandwidth usage/availability and Erlang B call blocking probability

4.1.12 To satisfy the requested information and based on the Comsoft Commercial Offer "Options Upgrade" document , COMSOFT agreed to develop a document upon which the MEVA Members will be able to calculate the cost of future services and provide the periodic information via the monthly report

4.1.13 The Meeting made the following agreements for managing request and implementation for new circuits/ services:

a) agreed that the MEVA Network Coordinator supported by the MEVA TMG, will be the focal point for requesting new circuits and officially communicating the request to Comsoft.
b) For distributing the cost when a new 100kHz of bandwidth needs to be added to satisfy new circuits, the Meeting reached the agreement that the cost of each 100 kHz of additional bandwidth should be share equally among all MEVA Members
c) Evaluation for new circuits, shall be every quarter as needed using the monthly report information (Erlang B blocking probability and bandwidth availability)
d) advanced planning in this matter is a must to be applied to anticipate new bandwidth

4.1.14 The Meeting assigned the MEVA III Task Force to develop before the end of February 2015 a procedure based on the agreements detailed in paragraph 4.1.13 through which new service requirements will be vetted against the available bandwidth, and, if required, inform the MEVA Members that an increase of bandwidth is warranted. To that effect, the Meeting requested that COMSOFT provide the current figure of bandwidth available. In this regard the following
Conclusion was agreed:

CONCLUSION
MEVA TMG/29/05 ADDITIONAL CIRCUIT DOCUMENT

That, in order to have a single document containing the prices and conditions applicable for additional circuits and valid during the lifetime of the MEVA III Network, Comsoft:

a) provide the current figure of bandwidth available by the end of December;

b) include in the monthly report the information on Erlang B blocking probability and bandwidth availability; and

c) develop by February 12, 2015 a document detailing the conditions and prices for additional circuits and the procedure to follow for any additional circuit implementation; considering that the MEVA III Network Coordinator is the focal point.

CONCLUSION
MEVA TMG/29/06 BANDWIDTH COST SHARING FOR ADDITIONAL MEVA III CIRCUITS

That, considering bandwidth increases may be required for new MEVA III circuits; the MEVA Members agreed that the cost ($500) of each bandwidth 100kHz increment be equally shared among all Members.

CONCLUSION
MEVA TMG/29/07 PROCEDURE FOR MEVA III MANAGEMENT FOR ADDITIONAL MEVA III CIRCUITS

That, in order to manage as a Group any additional circuit requirement, the MEVA III Task Force develop by February 20, 2015 a procedure to plan, manage, inform and approve new circuits requirements including bandwidth increase and communication requirements. This procedure must be based on the MEVA Members Group agreements detailed in paragraph 4.1.13 of this report.

4.2 MEVA III Documentation Review and Approval

MEVA III Documentation overview

4.2.1 Under WP/7 the MEVA III TF presented the status of development, review and approval of the MEVA III documentation, summarized as following:

a) Chapter 1: VSAT-SDD - Chapter 1_SDD - Network Design Document_V1.5
Pending changes are:

- Cuba/Atlanta AFTN circuit to be changed to 19200bps. The 19.2kbps data rate was specified in the MEVA III RFP. COMSOFT agreed to make the change without effect on price.
- Dominican Republic Winchester connector. The Dominican Republic indicated that a Winchester connector for the AMHS circuit was never specified. The correct connector is V.35/DB-25.
- Aruba/Caracas Shoutline to be Hardware Only/No Service
- Curacao/Bogota Shoutline to be Hardware Only/No Service
- Sint Maarten agreed to change the AMHS circuit interface from Ethernet to Serial due to the impossibility of COMSOFT to accommodate an Ethernet interface on one end of a circuit and serial on the other end.
- Cayman Islands Ethernet. . The Task Force will contact the Cayman Islands to resolve this issue.
- MEVA – REDDIG interconnection paragraph to be expended to include technical details of the sync-async X.25 interconnection in Bogota REDDIG node.

b) Chapter 1 Annex: VSAT-SDD - Chapter 1_MEVA III_Annex – SkyWAN System Description_V1.1: Approved by MEVA Members

c) Chapter 2: VSAT-SDD - Chapter 2_MEVA III_Network-Overview_v1.7d
Approved pending changes to Chapter 1

d) Chapter 3: VSAT-SDD_MEVA III_LB_V1.0
Approved by MEVA Members

e) Chapter 4: VSAT-SDD - Chapter 4_MEVA III_Port Connections_V1.3
Approved pending changes to Chapter 1

f) Chapter 5: VSAT-SDD - Chapter 5_MEVA III - Rack Drawings_V1.3
Approved by MEVA Members

g) Chapter 6: VSAT-SDD - Chapter 6_MEVA III_Project Implementation Schedule_V5.6
Version 5.7 was delivered during the meeting. Dates for installation of Curacao node were identified.Pending changes included; and so a new version was provided as version 5.8 and later a last version as 5.9. Versions 5.8 and 5.9 are practically the same just with a change for Atlanta installation.
Approved by MEVA Members

h) Chapter 7: VSAT-SDD_MEVA III_TSP_V1.2
Comments submitted to COMSOFT, waiting for new update

i) Chapter 8: VSAT-SDD_MEVA III_TRP_V1.2
Version provided during the TMG/29 Meeting. Cuba's request to have It's training in Havana has been resolved. MEVA Members OK with Training blocks proposal.
Approved by MEVA Members

j) Chapter 9: VSAT-SDD_MEVA III_Security Plan_V1.1
Under review by the Task Force: target date: 30 January 2015

k) Chapter 10: VSAT-SDD_MEVA III-Statistics Template_V1.1
Missing main text of this chapter. Awaiting COMSOFT to provide: 30 January 2015
Annex 1: monthly report template: COMSOFT to include the amount of spare bandwidth available for new services and Erlang B Probability Status.
Annex 2- Chapter 10: VSATSDD_MEVA III_TicketSystem_V1.0
Under review by the Task Force: target date: 30 January 2015
Annex 3- sun outages: Provided during TMG/29
Under review by the Task Force: target date: 30 January 2015

l) Chapter 11: VSAT-SDD_MEVA III FAT-Procedure_Draft V1.0
COMSOFT agreed to the following modifications to be introduced in the FAT Procedures v1.0:

i. General comment: To give more details about the target metrics, equipment used, etc…
ii. 2.9 Voice Connectivity Test for ATS Hotline Service & 2.10 Voice Connectivity Test for switched Voice Services
iii. A tone test will be performed using the following:

Start Test Tone (STARTTONE)

The Start Test Tone (STARTTONE) command is used to send a tone frequency over a NetPerformer voice port (phone line) for testing purposes. This tone can be used to measure the line impedance setting required for an FXO port.

To execute this command:

1. Enter **STARTTONE** at the console command prompt.
2. Select the *Slot number*.
3. Select the *Frequency (Hz)* of the tone.
4. Select the *Amplitude (dBm)* of the tone.

```
BOSTON>STARTTONE
START TEST TONE
SLOT> Slot number (1/2/3/4,def:1) ? 1
Frequency (Hz) > (300/404/1004/2713/2804/3300,def:300) ?
Amplitude (dBm) > (0/-5/-10/-15/-20/-25/-30,def:0) ?
```

When **STARTTONE** is executed a tone is sent over the NetPerformer phone line specified by the slot number, as long as the voice port is not hanged up.

NOTE: Execute the **STARTTONE** command again to change the tone *Frequency* and/or *Amplitude* that is sent on the phone line. If the *Amplitude* is set to **0**, no tone is generated.

iv. A voice quality test will be performed. The test is as follow:
A short sentence (see below) reflecting what a controller would typically say will be said and an assessment of the Signal Quality (Loudness) and Voice Readability (Clearness) be made. If it the sentence is heard “Loud and Clear” it would pass. The results will be recorded.
The sentence is: Flight Level three Height Zero; Clear to land; Alpha Kilo Niner

v. 2.11 Serial Link Test: An AMHS system is to be connected to the circuit. 100 messages will be sent and the reception of each will be validated.

Approved by MEVA Members with comments to be included. Version 1.2 was submitted by Comsoft.

- SAT Procedures will be delivered on 5 January 2015 at the latest.
- NAT Procedures will be delivered on 5 January 2015 at the latest.

m) Chapter 12: VSAT-SDD_MEVA III_WebPage_V1.0
COMSOFT agreed to add to the MEVA III Webpage:

- link/button to the NOC Web monitoring, similar to the Trouble Ticket System link/button. (design of this site to be provided)
- Help button
- User manual

MEVA III prototype: http://noc.comsoft-sat.com:7543

User : MEVA
Password : MEVA

Chapter 13 Glossary
To be delivered once all other chapters are completed.

CONCLUSION
MEVA TMG/29/8 MEVA III DOCUMENTATION REVIEW AND APPROVAL

That, in order to continue and streamline the review and approval process of the SDD:

a) COMSOFT to provide the updated SDD chapters (1, 2, 4, 6, 7, 9,10, 11, 12) with the changes highlighted and dates detailed in this agenda item;

b) COMSOFT to deliver the SAT and NAT Procedures on 5 January at the latest; and

c) Task Force to review the changes and recommend the documents to the TMG for approval

MEVA III Website prototype

4.2.2 In WP/08, Jamaica presented a review of the proposed MEVA III Website and Trouble Ticket System. COMSOFT indicated that the web-based monitoring will be available after the Miami NOC is implemented.

4.2.3 COMSOFT agreed to add to the MEVA III Webpage a link/button to the NOC Web monitoring, similar to the Trouble Ticket System link/button (design of this site to be provided), Help button and User manual. COMSOFT requested a Points of Contact list for inclusion in the Trouble Ticket System directory. In this regard the following Conclusions were formulated:

CONCLUSION
MEVA TMG/29/09 MEVA III WEBSITE- REVIEW BY MEMBERS

That, in order to process on the review and approval of the MEVA III Website and its features, all MEVA Members to evaluate this website (http://noc.comsoft-sat.com:7543) and provide comments by 30 January 2015.

CONCLUSION
MEVA TMG/29//10 MEVA III POCS FOR NOC TROUBLESHOOTING

That for the appropriate operation and coordinate of the NOC, MEVA III TF to compile the list of Point of Contact for inclusion in the directory of the Trouble Ticket System by 30 January 2015.

4.3 MEVA III Interconnection Matters

MEVA III- REDDIG II Interconnection

4.3.1 Under WP/10 and WP/9, the Meeting was recalled on the need to review and update the associated procedures and agreements of the MEVA II REDDIG Interconnection considering the implementation on the new REDDIG II and MEVA III Networks.

4.3.2 The final MEVA II REDDIG interconnection requirements, which have been also requested on the MEVA III tender process, were as follows:

No.	Sites	Requirement
1	2	3
	Connectivity through the Caracas, Venezuela site	
1	Curaçao/Caracas (Venezuela)	1 ATS voice
		1 AFTN data, 2400 bps, X.25, IA-5
2	Aruba/Josefa Camejo (Venezuela)	1 ATS voice
3	Atlanta (United States)/Caracas (Venezuela)	1 AFTN data, 9600 bps, X25, IA-5
4	Puerto Rico/Caracas (Venezuela)	1 ATS voice
	Connectivity through the Bogota, Colombia site	
5	Barranquilla (Colombia)/Curaçao Barranquilla (Colombia)/Jamaica Barranquilla (Colombia)/Panama	ATS voice
6	Bogota (Colombia)/Panama	1 AFTN data, 2400 bps, X25, IA-5
7	Bogota (Colombia)/Panama Cali (Colombia)/Panama Medellin (Colombia)/Panama San Andrés (Colombia)/Panama	ATS voice
8	Lima (Peru) / Atlanta (United States)	1 AFTN data, 9600 bps, X25, IA-5
9	Atlanta (United States)/Manaus (Brazil)	1 AFTN data, 9600 bps, X25, IA-5

4.3.3 From coordination with the REDDIG Administration, the only requirement is still to be fully operational is the AFTN Data circuit Atlanta-Brasilia.

4.3.4 The upgrades and major changes to the REDDIG Network were provided together with the REDDIG II Implementation schedule:

- States have almost fully completed the customs process of the equipment and some are already onsite in their respective sites
- Physical installation of all equipment is scheduled to be finished by the end of the first week of December 2014
- The network commissioning will be on the week of January 19, 2014
- Regarding the REDDIG installation in the MEVA Node in COCESNA; by the week of Nov 24 the REDDIG Equipment will be delivered to the site with installation and operation planned for the week of January 19, 2015.

4.3.5 The ICAO NACC and SAM Regional Offices have agreed on conducting the MEVA III-REDDIG II interconnection meeting from 25 to 26 May 2015 in Aruba prior to the MEVA TMG/30 Meeting.

4.3.6 The Meeting took note that the following two documents were agreed among the MEVA and REDDIG Systems:

- MEVA – REDDIG interconnection Management agreements-
- MEVA- REDDIG network integration considerations

4.3.7. And so were reviewed by the Task Force. The TMG Meeting decided to create an ad-hoc group with representatives of Aruba, Curacao, COCESNA, United States to review the MEVA II – REDDIG Memorandum of Agreement document and propose an updated version taking into account the implementation of REDDIG II and MEVA III.

4.3.8. The ad-hoc group reviewed the documents and proposed changes. The Task Force will consolidate the proposed changes, and circulate a final draft of the MEVA III – REDDIG II Memorandum of Agreement to the TMG Members by the end of the year. The TF will then compile and address the TMG Members comments with the goal to finalize a draft to be presented during the MEVA III-REDDIG II Interconnection Coordination meeting.

CONCLUSION
MEVA TMG/29/11 MEVA III- REDDIG II INTERCONNECTION

In preparation for the upcoming MEVA III-REDDIG II interconnection/ integration discussions,

a) That the MEVA III TF is to finalize the draft of the MEVA III – REDDIG II interconnection/integration documents and submit it to the MEVA Members for approval by 15 march 2015; and

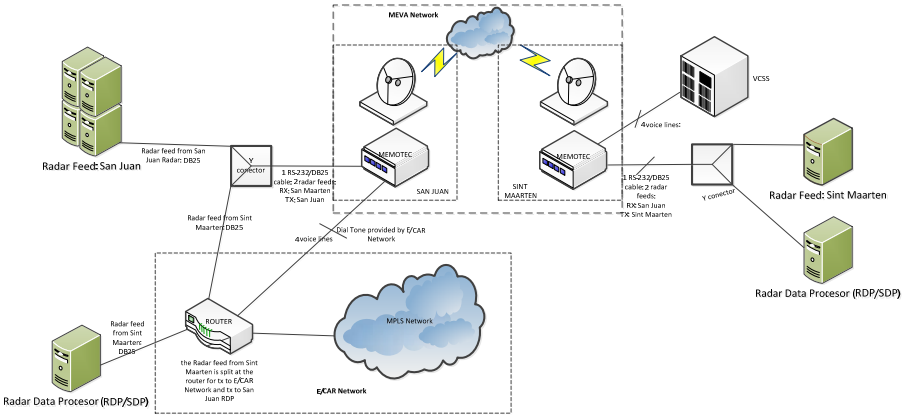
b) All MEVA Members to identify 2014 as needed by 6 April any future interconnection requirements for discussion with the REDDIG Network;

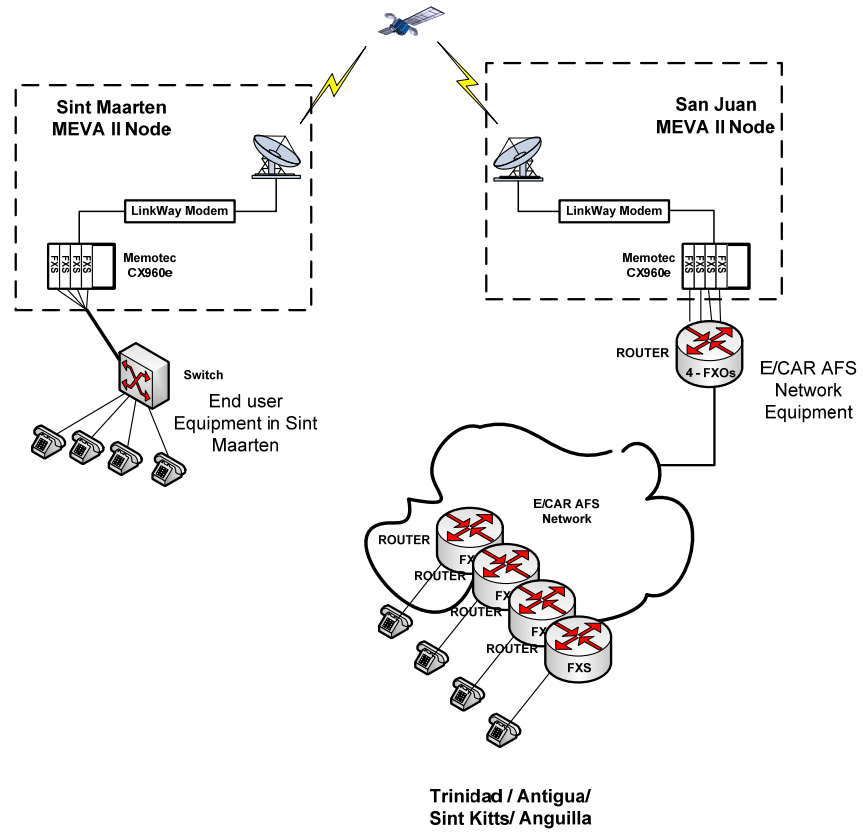
MEVA III- E/CAR AFS Interconnection

4.3.9 Under WP/11 the Meeting was informed on the progress and results of the E/CAR – MEVA II interconnectivity in light of the MEVA III Network implementation, whose requirements are:

	ATS Units	**Technical details**
SINT MAARTEN/ JULIANA APP	Anguilla (Clayton J. Lloyd International)	2 PBX service from ECAR-analog voice line
	Antigua (V. C. Bird APP)	1 PBX service from ECAR-analog voice line
	Saint Kitts (Robert L. Bradshaw TWR)	1 PBX service from ECAR-analog voice line
	PIARCO ACC	1 Serial line, RS232

4.3.10 The Meeting was informed that eight different teleconferences had been conducted to complete the implementation of the ECAR AFS Network- MEVA II interconnection. The following configurations were agreed:





4.3.11 From the E/CAR/NTG/05 Meeting, it was agreed that the implementation was to be postponed for the MEVA III Network. The following agreements were made:

a) 4 voice circuits will be implemented thru MEVA III and not MEVA II, so Trinidad and Tobago confirm the availability of the existing OPX circuits until this implementation. Sint Maarten reconfirmed that the total cost of the implementation of these 4 voice circuits through MEVA III will be covered by Saint Maarten.

b) the radar feed of Pico del Este will be the required radar feed to be exchanged with Saint Maarten.

c) United States confirmed their commitment to exchange radar data, but also recognized that currently they cannot process external radar data feed into San Juan. In this regard, United States indicated that they can provide the Pico del Este radar feed to Sint Maarten only. Sint Maarten will then pay for the total data circuit for the radar data feed from Pico del Este radar.

d) Trinidad and Tobago commented the operational need for sharing this same Pico del Este radar feed for benefit of the PIARCO FIR- San Juan FIR coordination and Antigua APP- San Juan ACC. Trinidad and Tobago will be responsible for the format conversion to integrate it into their Multiradar data processor.

4.3.12 The MEVA II – E/CAR AFS Network interconnection minutes are available in the MEVA III secure portal website. The MEVA II – E/CAR AFS Network interconnection requirements are part of the MEVA III network implementation.

4.3.13 In this regard, the Meeting agreed consider the necessary transition actions for the SAT/NAT in Puerto Rico and Saint Maarten MEVA III Nodes for the Interconnection with the E/CAR AFS.

4.4 MEVA II - MEVA III Transition Plan Matters

4.4.1 During the Meeting, an Adhoc Group was created by Markus Tenbeck (COMSOFT), Armando Hiraldo (SES), D. Roses (FAA), CUBA, Jamaica, Dom.-Rep, Bahamas for discussing the MEVA II- MEVA III transition items, concluding in the following:

- Cuba: Has two antennae in place, where SES do not see any problem in using the new one.
  Conclusion: No problem

- San Juan: Intelsat claims x-pole problems. SES has to visit the site again ASAP.
  SES sees no problem in fixing the station.
  Conclusion: No problem.

- Nassau: Hardware problems Feed-Ring has to be changed, that will cause outages. Antenna/feed need to be re-aligned to reach good x-pole. Bahamas & SES coordinating the work needed.
  Conclusion: Spare part delivery time could be too long, if part is not available on stock. Technically the problem can be solved. If not, Bahamas will decide to buy a new antenna.

- Dominican Republic:
  Conclusion: Dom.-Rep has a new antenna in stock and will install it on their own until start of transition, latest. Problem solved.

- Atlanta: Antenna at station is OK. Due to already using two carriers (MRT & Data) 3 dB back-off is taken and no more spare left for the MEVA III carrier. SES is checking the possible to concentrate the traffic on one modem (MRT and Traffic combined on one modem).
  Conclusion: SES will internally discuss the possibility of combining. If this does not work, COMSOFT will implement a 60 W BUC in order to overcome during transition phase.

- Merida: No transition problem, since the MEVA II network is switched off there.

4.5 MEVA III Implementation Plan

4.5.1 Under Presentation PPT01 and WP/12-13/14, several implementation and installation matters were explained by Comsoft Local partner, NEWCOM described the activities in different stages dealing with MEVAII to MEVAIII migration Plan:

- Stage 01: Approval by MEVA III TMG of the Transition Plan presented with the SDD.
- Stage 02: Installation of the Master Station in the Teleport Miami, FL includes a test configuration for the simulation of aeronautical voice and data applications as part of the SAT. On completion the SkyWAN carrier is on air and the satcom network is ready for inclusion of operational MEVA III terminals.
- Stage 03: Installation of the Backup Master Station in Atlanta.
- Stage 04: A few minutes interruption at the Atlanta terminal is necessary to introduce
- a L-Band combiner indoors to combine the carriers of an old and new modem on the transmit IFL cable and an L-Band splitter indoors to feed the receive signal from the IFL cable to both modems.
- Stage 05: In the subsequent, SAT for Atlanta application tests as agreed and approved by MEVA III TMG, between Atlanta and the Teleport, will be conducted and site acceptance will be achieved.
- Stage 06: Corresponding to steps (3) – (5), another MEVA III Network site, i.e. the first “remote site” in terms of the terminal/network node functions, will be installed and subjected to the SAT.
- Stage 07: Within the 3-site network configuration the switching between Master and Backup Master can be tested.
- Stage 08: In repetition of step (6), all other MEVA III Network sites will be installed by the installation teams, where several teams working in parallel to minimize the migration period with operational costs for 2 networks and subsequently subjected to the SAT.
- Stage 09: Now, all MEVA III Network sites are ready for switch-over in active services. The technical staff of the MEVA Member States has during the On-the-Job Training been instructed on the available interfaces and the connectors. Thus the active connections can now be transferred, one by one or in parallel, from MEVA II Network to MEVA III Network in coordination between technical staff of both affected sites by reconnecting to the MEVA III multiplexer interfaces. This process is accompanied by COMSOFT´s Helpdesk Support for the technicians at both sites - Miami and Atlanta.

- Stage 10: After transfer of all active services to MEVA III Network the Linkway2100 carriers will be idle and can be shut down. Thereafter all MEVA II indoor equipment can be decommissioned.
- Stage 11: The transition will be concluded with an adjustment of the modulation and coding to its final values. This involves a brief shut down of the network followed by a reboot with the new parameters

4.5.2 Similarly, Comsoft listed their local partners for the implementation and indicated the availability of two local partners for the site installations, which will streamline each node installation. The next activities in the implementation apart from the FAT, are the equipment delivery, for which Comsoft indicated that this delivery will start on time. In this regard the following conclusion was agreed:

CONCLUSION
MEVA TMG/29/12 MEVA III EQUIPMENT DELIVERY AND INSTALLATION

In preparation for the equipment delivery of MEVA III, Comsoft

a) to coordinate with each MEVA Member PoC the documentation for the delivery, providing all the shipping documentation in advanced for its customs clearance; and

b) submit the installers 'information (Passport, etc.) and list of tools to be use in the node installation by 19 December 2014

4.5.3 Comsoft commented the Meeting of the provision of the MEVA III Operational documentation, clarifying Comsoft that these documents are to be independent documents from the SDD and for exclusive use in the operation and maintenance of the network. These documents are part of the MEVA III RFP deliverables:

- Contingency Plan
- Maintenance Plan (Preventive and Corrective)
- NOC Operational Manual
- Trouble Ticket System Manual

4.5.4 Comsoft delivered Contingency Plan v1.0 with Appendix A - Intelsat Restoration Process v1.0, and the Troubleshooting Flow Chart v1.0

CONCLUSION
MEVA TMG/29/13 MEVA III OPERATIONAL DOCUMENTS

That to review and approve the necessary MEVA III Operational documents:

a) COMSOFT delivers by 23 January 2015, the following document:
- Maintenance Plan (Preventive and Corrective)
- NOC Operational Manual
- Trouble Ticket System Manual
-

b) The Task Force to review the documentation provided, and recommend it for approval before the Network Acceptance Test (NAT) in March 2015.

AMHS Interoperability Testing

4.5.5 Under WP/22, United States presented information on a proposed end-to-end AMHS testing. The MEVA III Network will carry operational data from day one, including AFTN and AMHS messages generated from disparate systems. In order to increase the likelihood that these systems will continue to function as intended the FAA, in agreement with Cuba, proposes to carry out a test to see how the MEVA III network will interface with existing systems.

4.5.6 Currently, on MEVA II, a test circuit is used to perform AMHS interoperability testing between Cuba and FAA's Technical Center. This circuit does not carry operational traffic, and therefore can be used to perform testing over MEVA III before the NAT. Once Havana and Atlanta have been installed and passed the SAT, both end of the MEVA II circuit will be disconnected and connected to the MEVA III AMHS ports. A series of message exchange tests will then be performed to validate end-to-end communication. Once this series of test is performed, the circuit will remain "up", and Cuba and FAA routers on both ends would exchange periodically data that, upon analysis, will show how the link is performing over time.

4.5.7 In the implementation schedule v5.6, the SAT for the Cuba node is scheduled on 16 February 2015, and the Atlanta SAT on 19 Feb 2015. This test should be performed after the 19 February 2015, at a date and time to be agreed by Cuba, the United States, and COMSOFT. The equipment would then stay connected until the NAT.

4.5.8 Based on the above mentioned information the following Conclusion was formulated

CONCLUSION
MEVA TMG/29/14 AMHS END-TO-END TESTING BETWEEN CUBA AND ATLANTA

That TMG and COMSOFT approves AMHS end-to-end testing between Cuba and Atlanta in the already established non-operational circuit to perform testing over MEVA III before the NAT

Agenda Item 5 World Radiocommunication Conference (2015) (WRC-2015) Activities

5.1 Under WP/15, the Meeting was recalled on the State support for the ICAO position for WRC-2015 (ICAO electronic bulletin, Ref: E 3/5. 15-13/57, dated 2 July 2013), including the support for the C-band aeronautical telecommunications. ICAO and the CAR region has expressed its support to this position:

- the NAM/CAR Air Navigation Implementation Working Group (ANI/WG) formulated Conclusion ANI/WG/1/10 - *Active State Support to ICAO Position for WRC-15*; urging States to include ICAO WRC-2015 Position to their ITU related meetings and the inclusion of aviation experts in the national delegations that participate in the ITU and regional preparatory activities for WRC-15.
- Assembly Resolution A38-6 instructs the Council, the Secretary General and the States to take action as a high priority matter
- The NACC/WG/04 formulated conclusion 4/5
- introduce this topic in all the working group meetings such as the ANI/WG and in GREPECAS; and
- ICAO maintains a list of States Points of Contact (PoCs) in support of the ICAO WRC-15 Position for coordination and mutual support

5.2 It was also recalled that during the MEVA TMG/26 Meeting, ICAO highlighted the recommendation of the Regional Preparatory Workshop for ITU to ensure protection for these WRC-agenda items for the Aeronautical VSAT networks in the CAR/SAM Regions, providing several studies and other information to ensure protection of the C-band for aeronautical purposes:

- Report ITU-R S.2199: Studies on compatibility of broadband wireless access systems and FSS networks in the 3400-4200 MHz band
- Recommendation ITU-R SF.1486: Sharing methodology between fixed wireless access systems in the fixed service and VSAT in the FSS in the 3400-3700 MHz band
- Recommendation 724 (WRC-07): Use by civil aviation of frequency allocations on a primary basis

5.3 The Meeting took note that for the CAR Region, the Interamerican Commission of Telecommunication, CITEL, is the regional forum for expressing this support. CITEL may receive all the States position, individually or as a group, as for e.g., The Caribbean Telecommunication Union (CTU). Currently, the States are still providing their decision for the different positions to present in the WRC-2015 in November 2015. The last CITEL meeting in Merida Yucatan, the XXIV Meeting of the Permanent Consultative Commission: Radio communications (XXIV PCC.II) (September 2014) expressed some support to ICAO position item; however no Caribbean support was presented. Similarly the need to register Aeronautical VSAT nodes/network was commented. The next two meetings for States to expressed their support to these positions are in February 2015 (Medellin: (XXV PCC.II) and August 2015 (Ottawa: (XXVI PCC.II).

5.4 Under WP/21, through video teleconference, ITU informed that ICAO has initiated consultations with ITU with the aim to notify and record in the ITU Master International Frequency Register (MIFR) the Earth Stations of the MEVA Network located in the Caribbean and Central American region, in order to obtain an international recognition and protection of these frequency assignments operating in C- band.

5.5 ITU informed that in view of the concerns to ensure an adequate protection of the Fixed Satellite Service, and its associated Earth Stations in the frequency bands above-mentioned, expressed to the Bureau by Administrations, Satellite Operators and specialised Agencies during ITU Regional Seminars, as well as the current situation showing that only a few C-band earth stations are recorded in the MIFR, the Radiocommunication Bureau sent two letters on 29 and 30 July 2014 (with a set of minimum parameters required to coordinate the earth stations) to Administrations in the Caribbean and Central America Region with the aim to provide special assistance under Article 7 of the Radio Regulations to those Administrations facing difficulties to proceed with the coordination and notification of their earth stations.

5.6 Based on the information provided, the ITU Radiocommunication Bureau carried out a study to identify the coordination area and potentially affected Administrations for each MEVA earth stations. The results of this study (**Appendix B**) were presented to the Meeting.

5.7 A consolidation of the results, mainly in terms of coordination requirements per earth station, is summarized in the following table, (details of country codes or geographical areas can be found in the Preface (http://www. itu .int/ITU-R/go/space-preface/ en)) :

Summary of Administrations with which Coordination is Required:

EARTH STATION NAME	COUNTRY NAME OR GEOGRAPICAL AREA / NOTIFYING ADMINISTRATION	ITU COUNTRY CODE / NOTIFYING ADMINISTRATION	COORDINATION UNDER 9.17 REQUIRED WITH		REMARKS
			UPLINK	DOWNLINK	
MEVAIII-WILLEMSTAD	CURACAO / HOLLAND	CUW/HOL	ABW BES CLM VEN	ABW BES CLM DOM GRD HTI KNA MSR PTR TRD VCT VEN VIR VRG	
MEVAIII-BOGOT@	COLOMBIA	CLM	null	VEN	
MEVAIII-SANTO DOMINGO	DOMINICAN REPUBLIC	DOM	PTR	ABW BES CLM CUW HTI KNA MSR PTR TCA VEN VIR VRG	
MEVAIII-SAN JUAN	PUERTO RICO / USA	PTR/USA	VIR VRG	AIA ATG BAH BES BLM DOM GLP KNA MAF MSR SXM TCA VIR VRG	
MEVAIII-PORT-AU-PRIN	HAITI	HTI	DOM	BAH CUB CYM DOM TCA USA	
MEVAIII-PHILLIPSBURG	ST. MARTEEN/HOLLAND	SXM/HOL	AIA ATG BES BLM KNA MAF MSR PTR VIR VRG	AIA ATG BES BLM DMA DOM GLP GRD KNA LCA MAF MRT MSR PTR TRD VCT VEN VIR VRG	
MEVAIII-PANAMA CITY	PANAMA	PNR	null	CLM CTR EQA NCG	
MEVAIII-ORANJESTAD	ARUBA / HOLLAND	ABW/HOL	BES CLM CUW VEN	BES CLM CUW DOM HTI PTR VEN VIR	
MEVAIII-MERIDA	MEXICO	MEX	null	BLZ CUB GTM	
MEVAIII-KINGSTON	JAMAICA	JMC	null	CLM CUB CYM HND HTI NCG USA	
MEVAIII-HAVANA	CUBA	CUB	USA	BAH BLZ CYM HND MEX SWN USA	
MEVAIII-GEORGETOWN	CAYMAN ISLANDS / UK	CYM/G	null	BAH BLZ CLM CUB GTM HND HTI JMC MEX NCG SWN USA	

MEVAIII-NASSAU	BAHAMAS	BAH	null	CUB DOM HTI TCA USA	
MEVAIII-FREEPORT	BAHAMAS	BAH	USA	CUB TCA USA	
MEVAIII-COCESNA	HONDURAS	HND	NCG SLV	BLZ CTR GTM NCG SLV	coordinates to be confirmed by ICAO
MEVAIII-CARACAS	VENEZUELA	VEN	BES	ABW BES BRB CLM CUW DMA DOM GLP GRD KNA LCA MRT MSR PTR TRD VCT VIR	
MEVAIII-ATLANTA	USA	USA	null	null	

5.8 ITU presented the suggested 3 follow-up steps to facilitate the process of coordination and notification of the involved earth stations:

a) collect all the necessary parameters associated to the earth stations and associated satellite networks based on Appendix 4 of the Radio Regulations;

b) identify coordination requirements and to complete coordination among concerned Administrations; and

c) for Administrations having jurisdiction over the earth stations, to notify the earth stations to ITU.

5.9 For all three above steps, administrations may request the assistance of the Radiocommunication Bureau.

5.10 The Meeting thanks ITU for their support on the registration of the VSAT nodes and expressed their support to the ICAO Position including the protection of the C-Band considering the lack of decision by Caribbean States and the need to register the VSAT Nodes and agreed on the following conclusion:

CONCLUSION
MEVA TMG/29/15 – MEVA MEMBER´s SUPPORT FOR ICAO WRC-2015 POSITION AND ITU VSAT NODE REGISTRATION

That in order to protect the use of the radiofrequency spectrum for aviation usage and the timely MEVA III VSAT Node registration in ITU Master International Frequency Register (MIFR), the MEVA Members:

a) Coordinate with their National Spectrum Regulators, the support to be provided to the ICAO WRC-2015 Position for the upcoming CITEL Meetings in February 2015 (Medellin: (XXV PCC.II) and August 2015 (Ottawa: (XXVI PCC.II));

b) Using the ITU study carried out for the MEVA III Network (appendix B), coordinate with their National Spectrum Regulators the corresponding MEVA III Node registration into MIFR; and

c) Report the progress of action a) and b) by MEVA TMG/30 Meeting.

Agenda Item 6 Review of MEVA/TMG Terms of Reference (ToRs) and Work Programme

6.1 Under WP/16, the Meeting reviewed and approved an update to the MEVA III TMG Terms of Reference and Work Program, to include changes on:

- Radio frequency managements and support by the TMG
- air navigation regional priorities and targets related to the MEVA Network infrastructure that were developed by the NAM/CAR Air Navigation Implementation Working Group (ANI/WG) and approved by the NAM/CAR Directors of Civil Aviation.

6.2 The updated MEVA III TMG Terms of Reference and Work Program are presented in **Appendix C**. In this regard the following conclusion was agreed:

CONCLUSION
MEVA TMG/29/16 APPROVAL OF MEVA TMG TERMS OF REFERENCE

That in order to maintain the functions and responsibilities of the MEVA TMG up-to-date, the attached MEVA TMG Terms of Reference shown in the Appendix C was approved.

Agenda Item 7 Other Matters

7.1 Aviation System Block Upgrade (ASBU) Implementation and Support review

7.1.1 Under WP/17, the Secretariat presented an overview of the Aviation System Block Upgrade (ASBU) methodology adopted under the NAM/CAR Regional Performance based Air navigation Implementation Plan for the Group consideration and recalled:

- the conclusion MEVA TMG 26/20 - *MEVA TMG Support for ANI/WG Activities* and
- the air navigation regional priorities and targets related to the MEVA Network infrastructure that were developed by the NAM/CAR ANI/WG and approved by the NAM/CAR Directors of Civil Aviation, presented at the MVA TMG/28

7.1.2 The Meeting noted that eventually for 2015, the RPBANIP content will be migrated to the Volume III of the electronic Regional Air Navigation Plan (eANP) and that the ANI/WG/02 Meeting will be held in Costa Rica in June 2015.

7.1.3 The Meeting concurred that the accomplished update of the existing work programme and Terms of Reference made in Agenda Item 6 was now aligned to the RPBANIP and ASBU methodology. In this regard the following conclusion was agreed:

CONCLUSION
MEVA TMG/29/17 MEVA TMG SUPPORT FOR ANIWG/02 MEETING

That in order to ensure active participation by MEVA Members at the ANIWG/02 Meeting and appropriate preparation of the MEVA III progress, the MEVA TMG Coordinator coordinate and develop the corresponding working paper for the ANIWG/02 Meeting describing the progress in MEVA III Implementation and the support of the MEVA Network to Air navigation in the regions

7.2 MEVA III Go-teams

7.2.1 Under WP/18, the Meeting followed up the implementation of the MEVA III Go-Teams as proposed in the MEVA TMG/28 Meeting and recalled that the MEVA III Go-Team initiative was well accepted by the MEVA Members including the work framework of a Go-Team and proposed the development of the MEVA III Go-Team to assist the SAT execution, as established in CONCLUSION MEVA TMG/28/15 MEVA III GO – TEAMS, recognizing that with the new approach of the SAT including some NAT activities, the importance of the assistance of the MEVA III Go-teams have increase ensuring operation and configuration consistency, as well as reducing the operational risk for the final network cutover from MEVA II to MEVA III.

7.2.2 The MEVA III GoTeam Revised Terms of Reference were presented as shown in **Appendix D**. The Meeting was informed of a tentative schedule of these *Go-Teams* based on the MEVA III Implementation schedule version 5.6; however the Meeting noted that the dates were updated in accordance to the new update of the implementation schedule by Comsoft (**Appendix E**).

7.2.3 The Meeting took noted that COCESNA, Cuba and Jamaica had already designated their MEVA III Subject Matter experts (SMES) to participate in the Goteams.

7.2.4 Based on the above, the RLA/09/801 Project and MEVA Members agreed on the following conclusion:

CONCLUSION
MEVA TMG/29/18 ACCEPTANCE OF THE MEVA III GO-TEAM MISSIONS AND SME DESIGNATION

That, in order to comply with the MEVA III implementation dates, MEVA III Network Members who are part of the RLA/09/801 Project:

a) hereby accept the Go-Team MEVA III Mission visits that will be carried out as detailed in the tentative schedule for MEVA III Go-Team Missions; and

b) designate subject matter experts (SME) to support these Go-Team missions in accordance with the designation given in the tentative schedule for MEVA III Go-Team Missions

7.3 Next MEVA/TMG Meeting Preparations

7.3.1 Under WP/19, The Meeting recognized that the TMG Meetings are the unique opportunity for the annual evaluation of the MEVA network performance and the MEVA Members to solve collective problems and seek collaboration for expanding mutual support for enhancing the telecommunications services in the region. Also that the annual MEVA/TMG meetings have proven to be very productive and effective, for keeping the network service performance, the interoperability matters with other networks, shared lessons learned among the MEVA Members, the implementation of failure reporting features; facilitate coordination on new services implementation and to establish awareness and conscience on the network health, changes and expansion.

7.3.2 The MEVA TMG/28 Meeting held at Miami, United States, close to the equipment facilities of the Regional representative of COMSOFT, NewComm, demonstrated the benefit of combining some of the Network discussion with onsite experiences visiting the equipment and facilities of the MEVA Network, serving as well as an opportunity to exchange practical experiences of the facilities where the MEVA Equipment operates.

7.3.3 With this same approach the next MEVA TMG Meeting, TMG/30, will be carried out in from 27 to 29 May 2015 in Aruba, being this the first operational meeting under the MEVA III Network operations. This TMG Meeting will be done after the first MEVAIII- REDDIG II Coordination Meeting (25-26 May 2015) also in Aruba.

7.3.4 In this regard a TMG meetings rotation schedule was agreed by the MEVA Members with the following considerations:

- Each of the TMG Meeting shall also be combined with other subject related meetings under the same week to enhance the benefits of the face-to face meetings.

- For these meetings, the participation of ICAO is to be funded by the hosting MEVA State/entity member.
- Notwithstanding the annual meetings, periodic teleconferences hosted by ICAO in coordination with the MEVA TMG Coordinator will continue as deem necessary.

7.3.5 The final MEVA TMG meeting rotational schedule is shown in the **Appendix F**. The MEVA TMG meeting rotation schedule shall be incorporated into the MEVA TMG terms of reference. In this regard the following conclusion was formulated:

CONCLUSION
MEVA TMG/29/19 – MEVA TMG MEETING ROTATIONAL SCHEME

That in order to improve the planning and organize of the MEVA TMG Meetings taking in consideration the benefits of conducting the meetings in MEVA locations, the MEVA Members:

a) Approve the MEVA TMG Meeting Rotational scheme as shown in Appendix F; and

b) Confirm the hosting of the MEVA TMG Meeting by the next MEVA TMG/30 Meeting.

APPENDIX A
FOLLOW-UP TO VALID CONCLUSIONS FROM THE MEVA TMG/28 MEETING

Conclusion	Description	Remarks	Status
28/01 - SES PENDING ACTION FOR COMPLETING AMRT/MRT ASSESSMENT AND REMOTE RADIO CIRCUIT IMPLEMENTATION	That, in order to complete the pending implementation/operational actions to ensure the safety and efficient operation of the MEVA II Network, SES: a) Complete the AMRT/MRT switching testing, no later than 30 June 2014; and b) Complete the implementation of the remote radio circuit, 20 June 2014.	AMRT/MRT activities were conducted by SES	Completed
28/02 - COMPLETION OF MEVA/REDDIG INTERCONNECTION AFTN DATA CIRCUIT WITH BRAZIL	That United States and the ICAO NACC Regional Office request assistance from the REDDIG Administrator by 3 June 2014, for coordination with Brazil to complete final testing of AFTN data circuit Atlanta-Manaus.	This interconnection is still pending and due to the closeness of the MEVA III implementation and the Moratorium with United States, it was agreed to continue the efforts for MEVA III	Superseded
28/03 - MEXICO TO SIGN MEVA III DOCUMENT OF AGREEMENT	That for the complete signing of the MEVA III DoA and common MEVA III contracting aspects, Mexico signs the MEVA III DoA by 30 June 2013, submitting the signed DoA to ICAO.	Mexico signed the MEVA III DOA on 12 Dec 2014	completed
28/04 - MEVA II AVAILABILITY CLAIM	That, in order to report the service outage and unavailability noted in the network in the first 5 months of 2014, MEVA Members: a) The MEVA TF (Cuba and Jamaica) to propose no later than June 3, a format for recollecting the minimum sufficient data for determining the service unavailability; b) MEVA Members following the format defined in letter a) recollect the data from 1 January to 31 May 2014 sending it to ICAO no later than 20 June; and c) ICAO to submit ,by 30 June. to SES the MEVA Members´ unavailability information for their response and subsequent actions	These activities were conducted. A State letter was submitted and the results were shared will all MEVA Members for their respective claims.	Completed
28/05- SES CONFIRMATION OF EQUIPMENT OWNERSHIP	That, in order to ensure which equipment is owned by the MEVA Members and which to SES, SES confirm no later than 6 June, the correctness of the preliminary ownership table shown in the TMG/28 report.	SES confirmed ownership.	Completed

Conclusion	Description	Remarks	Status
28/06 - MONTHLY CONTRACT FOR REMAINING MONTHS FOR MEVA III TRANSITION	That, in order to plan and decide the best cost-effective way for continuing the MEVA II Service provider Services prior to the MEVA III Transition, SES inform no later than 6 June of the price impact for continuing the MEVA II Service through monthly contracts.	SES had informed all MEVA Members of the signed extension of contract.	Completed
28/07 - END DATES OF ANNUAL MEVA II CONTRACTS	That, in order to assist and support the MEVA Members in the defining the best cost-effective way for continuing the MEVA II Service provider Services prior to the MEVA III Transition, MEVA Members to inform the MEVA TMG of their end date of their current MEVA II contract no later than June 3.	This data was informed	Completed
28/08 - DEVELOPMENT AND APPROVAL OF RELEVANT MEVA DOCUMENTATION FOR MEVA III	That, in order to ensure the appropriate operations of the MEVA III Network, including its interconnection/integration with REDDIG Network: a) The MEVA III Taskforce, Aruba and Curacao in coordination with Comsoft take the necessary actions to maintain or improve the network documentation and references when transitioning to MEVA III considering the existing MEVA II material by before the beginning of MEVA III site installations; b) Comsoft to present their MEVA III webpage design/template by 31 July or within the SDD proposal; and c) The MEVA III Taskforce, Aruba and Curacao in coordination with Comsoft Review the existing MEVA II- REDDIG interconnection agreements (MEVA-REDDIG MOA and Integration considerations) for its customization for MEVA III by 15 September 2014.	a) done b) Webpage prototype provided and included under revision of the SDD c) Draft updates of the MEVA REDDIG interconnection documents have been prepared	Completed
28/09 - MEVA III-REDDIG II MEETING ORGANIZATION	That, in order to ensure the appropriate coordinate and the effective operation of the MEVA III Network and the REDDIG Network, ICAO coordinates the need for a MEVA III- REDIG II Meeting to review and agree on the corresponding common network management issues and inform the MEVA TMG by 30 September 2014.	ICAO NACC Office had coordinate the REDDIG II- MEVA III Interconnection Meeting for May 2014.	Completed

Conclusion	Description	Remarks	Status
28/10- CONFIRMATION AND APPROVAL OF PROPOSED LOCAL SERVICE PARTNERS FOR MEVA III SERVICES	That, in order to ensure an appropriate coordinate and the most effective service to the MEVA Members in achieving the MEVA III SLA, the MEVA Members review, comment or approve the proposed local Service partners for its corresponding Administration informing the MEVA TMG no later than 20 June 2014.	TMG Members approved Newcom as the local partner to Comsoft. Also all MEVA Members had coordinated the approval of the local partners proposed by Comsoft	Completed
28/11 - MEVA III FACTORY ACCEPTANCE TESTS (FATs)	That, in order to allow the possibility for the MEVA Members to participate in the MEVA III FAT: a) COMSOFT inform ICAO by 29 August 2014 about the FAT venue, logistics and details needed for MEVA Members to participate; and b) the participating MEVA Members notify the MEVA TMG and ICAO of their interest at least one month prior to the FAT execution.	The MEVA FAT participants had been informed to Comsoft. Jamaica was confirmed as the only TMG participant to the FAT.	Completed
28/12 - COMSOFT REPRESENTATIVES FOR MEVA III INSTALLATION	That, in order to coordinate the necessary security and logistical matters for the node installation of the MEVA III equipment by COMSOFT Local Representatives, COMSOFT will provide by 30 October 2014, the names of the staff and company performing the installation in each MEVA node for the respective MEVA Member approval.	Comsoft provided the latest information on local partner for installations	Completed
28/13 - MEVA III HIGH LEVEL TRAINING AND RESTORATION PROCEDURES	That, in order to optimize the training sessions and the names of the MEVA Members participants, the MEVA TMG: a) coordinate among the MEVA Members the participants to the MEVA III High Level Training and Restoration Procedures; and b) inform COMSOFT by 11 July 2014 the number of participants for training sessions organization purposes.	The coordination of the numbers of participants to the training has been made with Comsoft	Completed
28/14 - MEVA III IMPLEMENTATION SCHEDULE	That, in order to coordinate the necessary resources to continue the implementation activities for the MEVA III Network, the MEVA Members approve the MEVA III Implementation Schedule shown in Appendix E to this report.	New updates to the implementation plan has been discussed and included as Chapter 6 of the SDD. A final version of the plan is expected to be discussed in the meeting.	Completed

Conclusion	Description	Remarks	Status
28/15 - MEVA III GO TEAMS	That, in order to support and assist in the implementation of the MEVA III Go Teams of the ICAO Technical Cooperation Project (RLA/09/801) – *Implementation of Performance-Based Air Navigation Systems for the CAR Region*, a) MEVA Members review the MEVA III Go Team ToRs and send their comments to ICAO by **13 June 2014**; and b) ICAO develop the MEVA III Go Teams and inform the schedule of these Go Teams by **21 November 2014**.	A new review of the MEVA III Goteam was made based on the MEVA III implementation plan. No comments were made to the MEVA III GoTeam ToRs	Superseded

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APPENDIX B

EARTH STATIONS COORDINATION CONTOURS ASSOCIATED TO ICAO MEVA III VSATs NETWORK LOCATED IN THE CARIBBEAN AND CENTRAL AMERICAN REGION

This annex contains the analysis carried out by the Radiocommunication Bureau based on the criteria and methodology described in the Appendix 7 to the ITU Radio Regulations for the determination of the coordination area around an earth station and the identification of potentially affected countries which shall be involved in the coordination process between transmiting or receiving earth stations in the Fixed Satellite Service sharing the frequency band with fixed or mobile terrestrial services with equal rights in terms of frequency allocation.

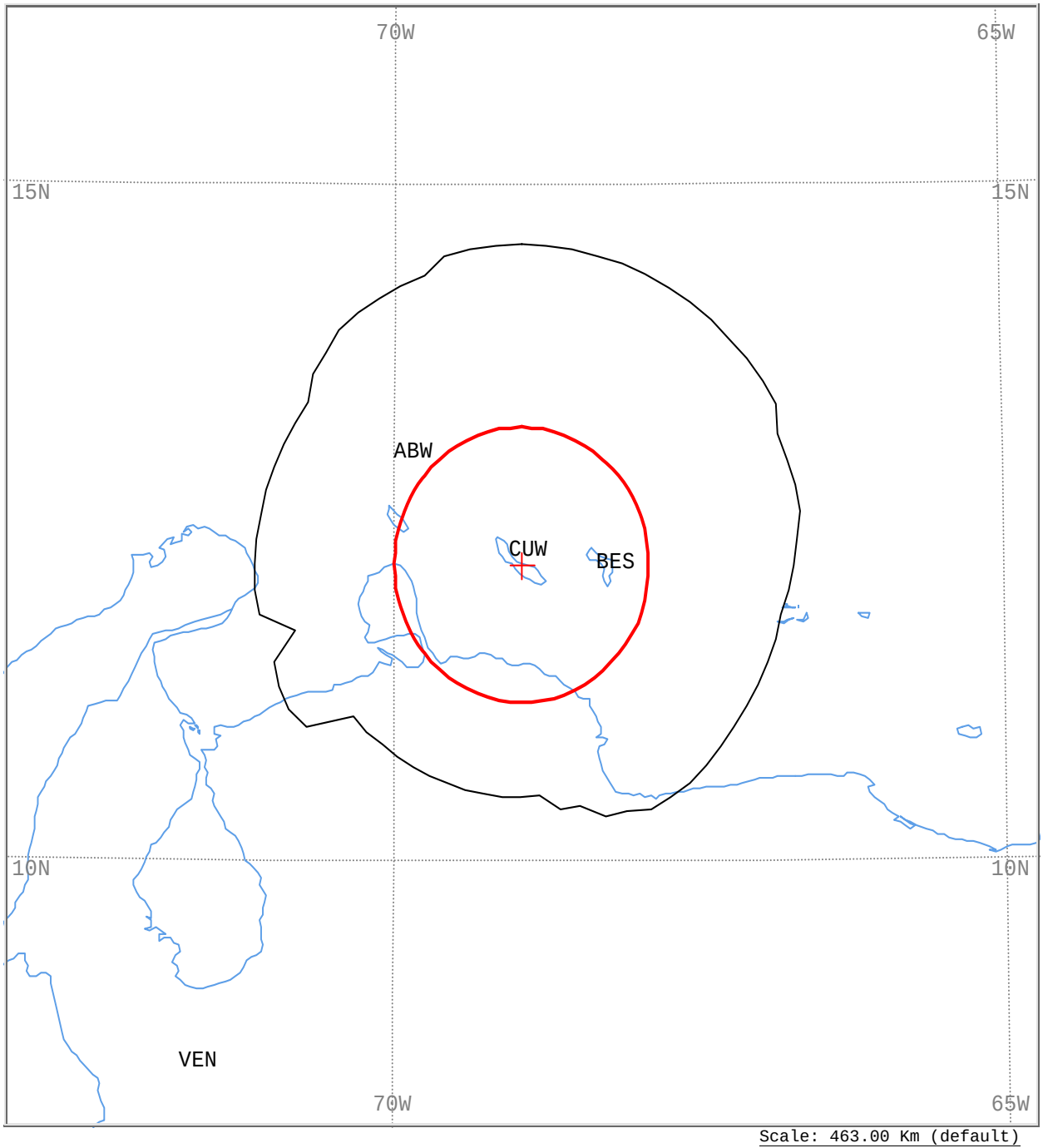
The list of earth stations included in this annex associated to the Satellite Network USASAT-60I located at 45 degrees west and its assigned frequencies 6064.75 MHz in the uplink and 3839.75 MHz in the downlink is described below:

Earth Station Name	Country Name or Geograpical Area / Notifying Administration	ITU Country Code / Notifying Administration
MEVAIII-WILLEMSTAD	CURACAO / HOLLAND	CUW/HOL
MEVAIII-BOGOT@	COLOMBIA	CLM
MEVAIII-SANTO DOMINGO	DOMINICAN REPUBLIC	DOM
MEVAIII-SAN JUAN	PUERTO RICO / USA	PTR/USA
MEVAIII-PORT-AU-PRIN	HAITI	HTI
MEVAIII-PHILLIPSBURG	St. MARTEEN/HOLLAND	SXM/HOL
MEVAIII-PANAMA CITY	PANAMA	PNR
MEVAIII-ORANJESTAD	ARUBA / HOLLAND	ABW/HOL
MEVAIII-MERIDA	MEXICO	MEX
MEVAIII-KINGSTON	JAMAICA	JMC
MEVAIII-HAVANA	CUBA	CUB
MEVAIII-GEORGETOWN	CAYMAN ISLANDS / UK	CYM/G
MEVAIII-NASSAU	BAHAMAS	BAH
MEVAIII-FREEPORT	BAHAMAS	BAH
MEVAIII-COCESNA	HONDURAS	HND
MEVAIII-CARACAS	VENEZUELA	VEN
MEVAIII-ATLANTA	USA	USA

Diagram 1: 2.1_TABLE7. TRANSMITTING GSO ES in FIXED-SATELLITE SERVICE W.R.T. RECEIVING TERRESTRIAL STATIONS. TS: fixed, mobile

Notice ID: 19
Administration/Geographical area: CUW/HOL
Satellite orbital position: -45.00
Frequency band: 6063.20-6066.30 MHz

Earth station name: MEVAIII-WILLEMSTAD
Earth station position: 068W573512N1120
Satellite name: USASAT-60I



Scale: 463.00 Km (default)

ES position
Main Mode1
Main Mode2

ANALYSIS DATE AND TIME: 2014-11-27 12:19:13

VERSION: 2.1.0.1Appendix 7 Pack/Plt-2.0.0.4/Frm-2.0.0.1/Clc-2.0.0.0/Prp-1.2.0.0/SNS-2.0.0.0/AP7F-2.0.0.0/Ref-2.0.0.1

Diagram 1: 2.1_TABLE7. TRANSMITTING GSO ES in FIXED-SATELLITE SERVICE W.R.T. RECEIVING TERRESTRIAL STATIONS. TS: fixed, mobile

NOTICE ID: 19 EARTH STATION NAME: MEVAIII-WILLEMSTAD EARTH STATION POSITION: 068W573512N1120 PHASE: D
ADM/GEO_AREA: CUW/HOL RAIN CLIMATICAL ZONE: N
SATELLITE NAME: USASAT-60I SATELLITE ORBITAL POSITION: -45.00 DEG
ANTENNA AZIMUTH: 115.41 DEG ANTENNA ELEVATION: 58.79 DEG
FREQUENCY BAND: 6063.20-6066.30 MHZ ASSIGNED FREQUENCY: 6064.75 MHZ PERCENTAGE OF TIME: 0.0050 %
MAXIMUM ANTENNA GAIN: 49.0 DBI MAXIMUM POWER DENSITY: -50.8 DBW/HZ NOISE TEMPERATURE: - K
ANTENNA PATTERN: APEREC015V01
2.1_TABLE7 Model: PLM_DUCTING

TRANSMISSION LOSS MODE 1: 162.2 DB (DOES NOT INCLUDE HOR. CORR. AND ANT. GAIN)
TRANSMISSION LOSS MODE 2: 116.2 DB

AZIMUTH	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115
OFF-AXIS	102.8	100.4	97.9	95.4	92.8	90.2	87.6	85.0	82.5	80.0	77.6	75.2	72.9	70.7	68.7	66.8	65.0	63.5	62.1	60.9	60.0	59.4	58.9	58.8
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	263	263	263	263	263	263	263	263	263	263	263	263	263	253	253	253	253	247	244	240	235	235	234	234
MODE 2																								
0.0 DEG	113	113	113	113	113	113	113	113	113	113	114	114	114	114	114	114	114	114	114	114	114	114	115	115

AZIMUTH	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235
OFF-AXIS	58.9	59.3	59.9	60.8	61.9	63.2	64.8	66.5	68.3	70.4	72.5	74.8	77.2	79.6	82.1	84.6	87.2	89.8	92.4	95.0	97.5	100.0	102.4	104.8
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	233	232	233	233	234	234	232	224	220	205	205	191	192	192	192	192	192	192	192	193	193	196	195	233
MODE 2																								
0.0 DEG	115	114	114	114	114	114	114	114	114	114	114	114	114	114	113	113	113	113	113	113	113	113	113	113

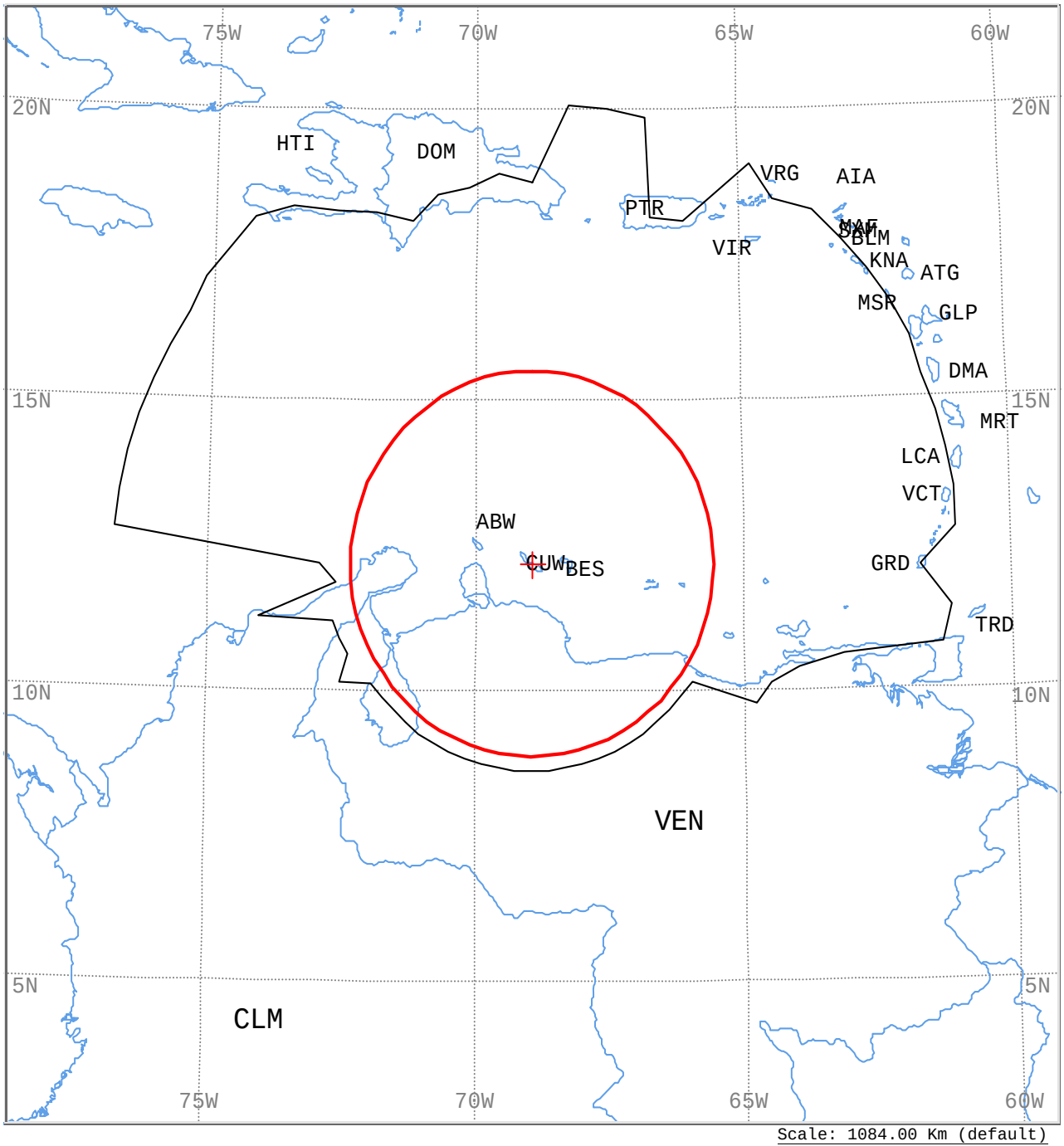
AZIMUTH	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355
OFF-AXIS	107.1	109.3	111.3	113.2	115.0	116.5	117.9	119.1	120.0	120.6	121.1	121.2	121.1	120.7	120.1	119.2	118.1	116.8	115.2	113.5	111.7	109.6	107.5	105.2
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	239	238	234	209	237	238	238	237	235	235	234	233	233	232	243	247	252	253	253	253	253	263	263	263
MODE 2																								
0.0 DEG	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113

PROBABLY AFFECTED COUNTRIES: ABW BES CLM VEN

Diagram 2: 2.1_TABLE8. RECEIVING GSO ES in FIXED-SATELLITE SERVICE W.R.T. TRANSMITTING TERRESTRIAL STATIONS. TS: fixed, mobile

Notice ID: 19
Administration/Geographical area: CUW/HOL
Satellite orbital position: -45.00
Frequency band: 3838.20-3841.30 MHz

Earth station name: MEVAIII-WILLEMSTAD
Earth station position: 068W573512N1120
Satellite name: USASAT-60I



Scale: 1084.00 Km (default)

ES position
Main Mode1
Main Mode2

Diagram 2: 2.1_TABLE8. RECEIVING GSO ES in FIXED-SATELLITE SERVICE W.R.T. TRANSMITTING TERRESTRIAL STATIONS. TS: fixed, mobile

NOTICE ID: 19 EARTH STATION NAME: MEVAIII-WILLEMSTAD EARTH STATION POSITION: 068W573512N1120 PHASE: D
ADM/GEO_AREA: CUW/HOL RAIN CLIMATICAL ZONE: N
SATELLITE NAME: USASAT-60I SATELLITE ORBITAL POSITION: -45.00 DEG
ANTENNA AZIMUTH: 115.41 DEG ANTENNA ELEVATION: 58.79 DEG
FREQUENCY BAND: 3838.20-3841.30 MHZ ASSIGNED FREQUENCY: 3839.75 MHZ PERCENTAGE OF TIME: 0.0017 %
MAXIMUM ANTENNA GAIN: 42.1 DBI MAXIMUM POWER DENSITY: - DBW/HZ NOISE TEMPERATURE: 400.0 K
ANTENNA PATTERN: APEREC015V01
2.1_TABLE8 Model: PLM_DUCTING

TRANSMISSION LOSS MODE 1: 198.9 DB (DOES NOT INCLUDE HOR. CORR. AND ANT. GAIN)
TRANSMISSION LOSS MODE 2: 156.9 DB

AZIMUTH	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115
OFF-AXIS	102.8	100.4	97.9	95.4	92.8	90.2	87.6	85.0	82.5	80.0	77.6	75.2	72.9	70.7	68.7	66.8	65.0	63.5	62.1	60.9	60.0	59.4	58.9	58.8
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	728	881	883	882	703	724	883	853	884	883	884	884	884	871	871	871	870	863	790	855	848	657	578	539
MODE 2																								
0.0 DEG	368	368	368	369	369	369	369	369	369	369	369	370	370	370	370	370	370	370	370	370	370	370	370	370

AZIMUTH	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235
OFF-AXIS	58.9	59.3	59.9	60.8	61.9	63.2	64.8	66.5	68.3	70.4	72.5	74.8	77.2	79.6	82.1	84.6	87.2	89.8	92.4	95.0	97.5	100.0	102.4	104.8
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	530	397	396	396	396	397	397	397	397	397	398	398	398	398	398	398	398	398	398	398	398	398	398	400
MODE 2																								
0.0 DEG	370	370	370	370	370	370	370	370	370	370	370	370	369	369	369	369	369	369	369	369	368	368	368	368

AZIMUTH	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355
OFF-AXIS	107.1	109.3	111.3	113.2	115.0	116.5	117.9	119.1	120.0	120.6	121.1	121.2	121.1	120.7	120.1	119.2	118.1	116.8	115.2	113.5	111.7	109.6	107.5	105.2
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	452	412	415	419	564	399	432	849	848	848	847	845	844	844	858	862	870	836	781	743	698	731	729	748
MODE 2																								
0.0 DEG	368	368	368	368	368	367	367	367	367	367	367	367	367	367	367	367	367	367	368	368	368	368	368	368

PROBABLY AFFECTED COUNTRIES: ABW BES CLM DOM GRD HTI KNA MSR PTR TRD VCT VEN VIR VRG

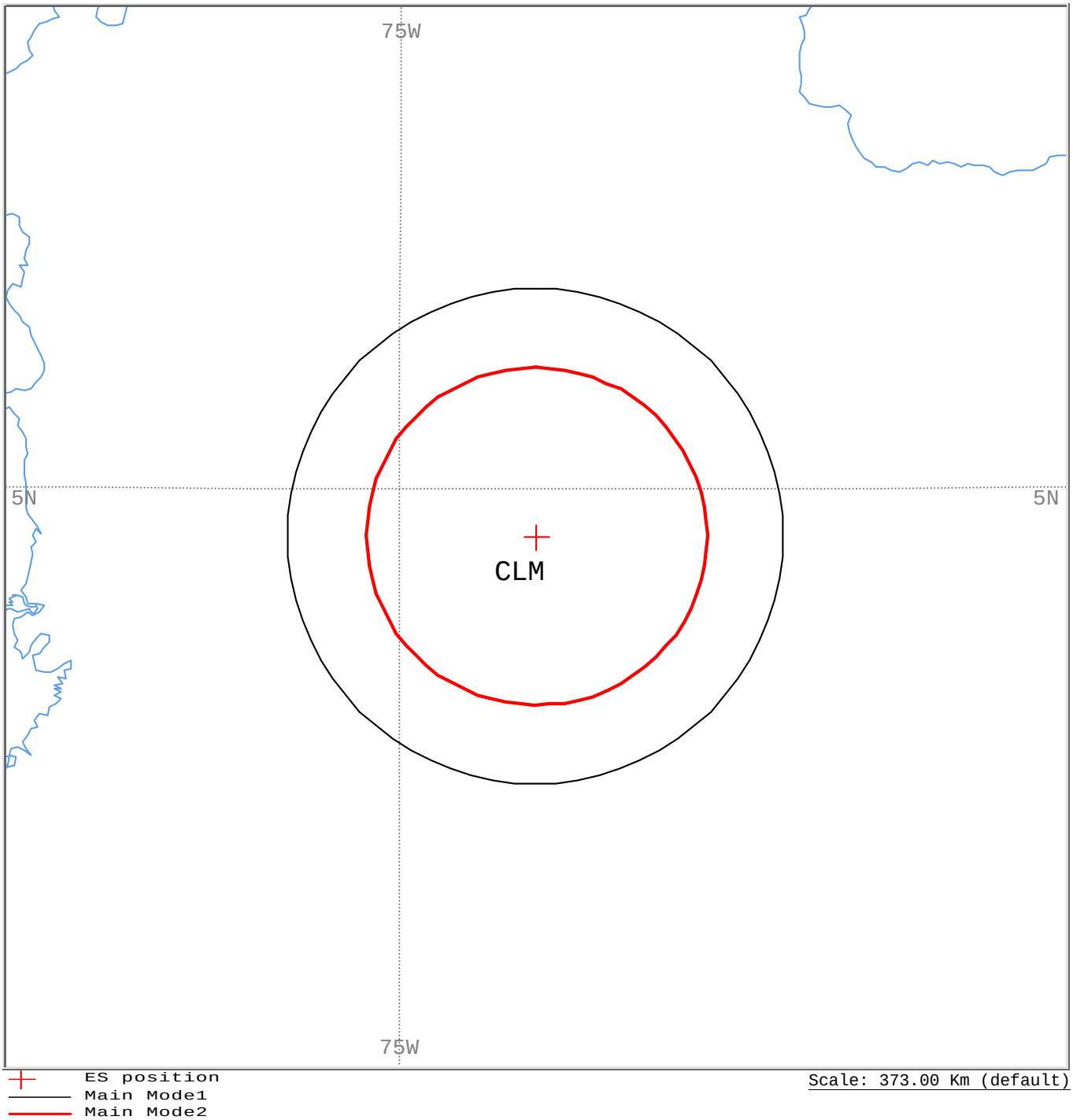
Diagram 1: 2.1_TABLE7. TRANSMITTING GSO ES in FIXED-SATELLITE SERVICE W.R.T. RECEIVING TERRESTRIAL STATIONS. TS: fixed, mobile

Notice ID: 2 Earth station name: MEVAIII-BOGOT@

Administration/Geographical area: CLM/CLM Earth station position: 074W084904N4206

Satellite orbital position: -45.00 Satellite name: USASAT-60I

Frequency band: 6063.20-6066.30 MHz



ANALYSIS DATE AND TIME: 2014-11-27 12:21:39

VERSION: 2.1.0.1Appendix 7 Pack/Plt-2.0.0.4/Frm-2.0.0.1/Clc-2.0.0.0/Prp-1.2.0.0/SNS-2.0.0.0/AP7F-2.0.0.0/Ref-2.0.0.1

Diagram 1: 2.1_TABLE7. TRANSMITTING GSO ES in FIXED-SATELLITE SERVICE W.R.T. RECEIVING TERRESTRIAL STATIONS. TS: fixed, mobile

NOTICE ID: 2 EARTH STATION NAME: MEVAIII-BOGOT@ EARTH STATION POSITION: 074W084904N4206 PHASE: D
ADM/GEO_AREA: CLM/CLM RAIN CLIMATICAL ZONE: N
SATELLITE NAME: USASAT-60I SATELLITE ORBITAL POSITION: -45.00 DEG
ANTENNA AZIMUTH: 98.36 DEG ANTENNA ELEVATION: 55.62 DEG
FREQUENCY BAND: 6063.20-6066.30 MHZ ASSIGNED FREQUENCY: 6064.75 MHZ PERCENTAGE OF TIME: 0.0050 %
MAXIMUM ANTENNA GAIN: 49.0 DBI MAXIMUM POWER DENSITY: -53.6 DBW/HZ NOISE TEMPERATURE: - K
ANTENNA PATTERN: APEREC015V01
2.1_TABLE7 Model: PLM_DUCTING

TRANSMISSION LOSS MODE 1: 159.4 DB (DOES NOT INCLUDE HOR. CORR. AND ANT. GAIN)
TRANSMISSION LOSS MODE 2: 113.4 DB

AZIMUTH	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115
OFF-AXIS	94.7	91.9	89.1	86.3	83.5	80.7	78.0	75.3	72.8	70.3	68.0	65.8	63.7	61.9	60.2	58.8	57.6	56.7	56.0	55.7	55.6	55.9	56.4	57.2
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173
MODE 2																								
0.0 DEG	118	118	118	118	118	118	119	119	119	119	119	119	119	119	120	120	120	120	120	120	120	120	120	120

AZIMUTH	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235
OFF-AXIS	58.3	59.7	61.3	63.1	65.0	67.2	69.5	71.9	74.4	77.1	79.8	82.5	85.3	88.1	90.9	93.7	96.5	99.3	102.0	104.7	107.2	109.7	112.0	114.2
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173
MODE 2																								
0.0 DEG	120	120	119	119	119	119	119	119	119	119	119	118	118	118	118	118	118	118	118	118	118	118	118	118

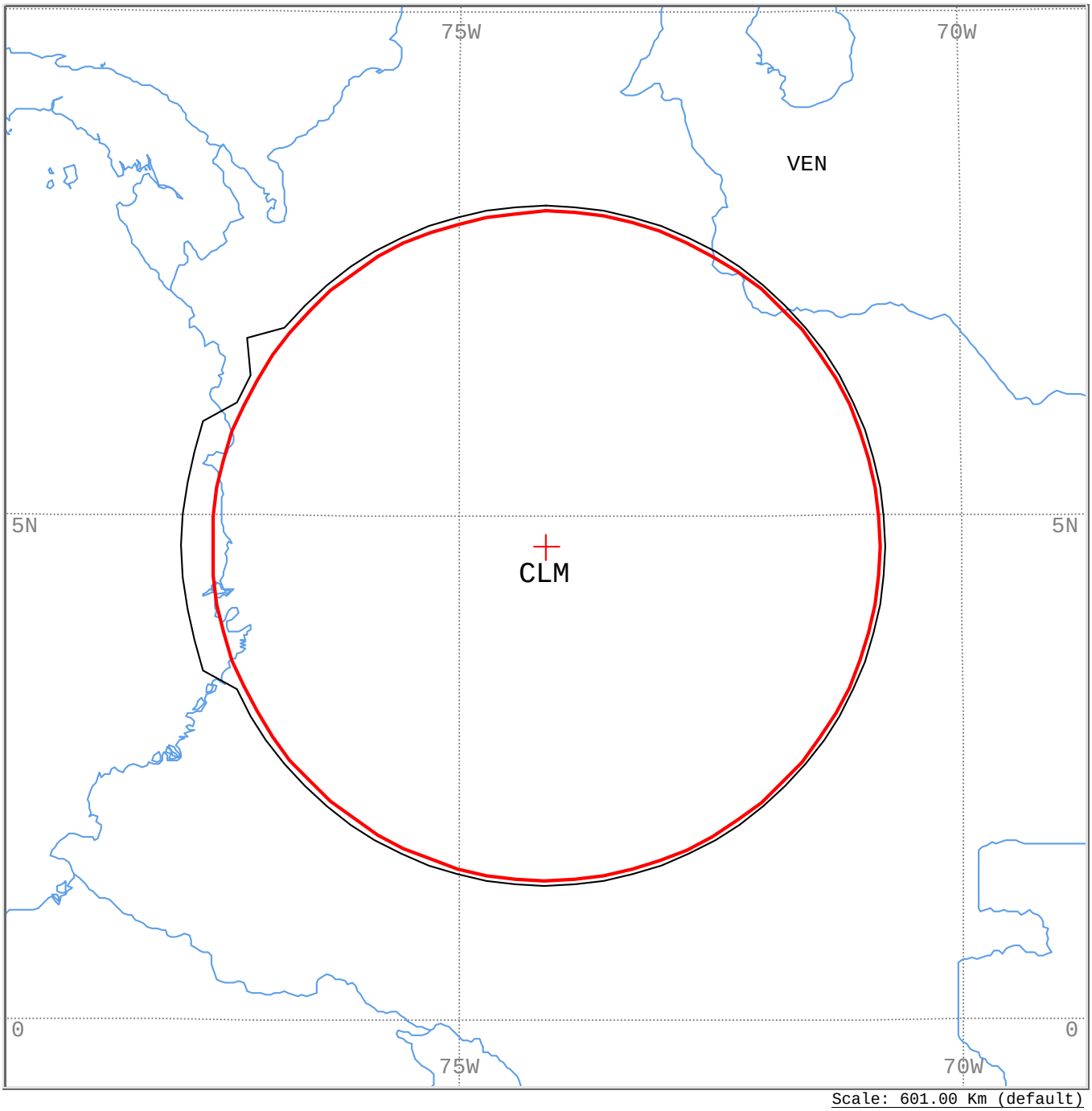
AZIMUTH	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355
OFF-AXIS	116.3	118.1	119.8	121.2	122.4	123.3	124.0	124.3	124.4	124.1	123.6	122.8	121.7	120.3	118.7	116.9	115.0	112.8	110.5	108.1	105.6	102.9	100.2	97.5
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173
MODE 2																								
0.0 DEG	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118

PROBABLY AFFECTED COUNTRIES:

Diagram 2: 2.1_TABLE8. RECEIVING GSO ES in FIXED-SATELLITE SERVICE W.R.T. TRANSMITTING TERRESTRIAL STATIONS. TS: fixed, mobile

Notice ID: 2
Administration/Geographical area: CLM/CLM
Satellite orbital position: -45.00
Frequency band: 3838.20-3841.30 MHz

Earth station name: MEVAIII-BOGOT@
Earth station position: 074W084904N4206
Satellite name: USASAT-60I



Scale: 601.00 Km (default)

ES position
Main Mode1
Main Mode2

Diagram 2: 2.1_TABLE8. RECEIVING GSO ES in FIXED-SATELLITE SERVICE W.R.T. TRANSMITTING TERRESTRIAL STATIONS. TS: fixed, mobile

NOTICE ID: 2 EARTH STATION NAME: MEVAIII-BOGOT@ EARTH STATION POSITION: 074W084904N4206 PHASE: D
ADM/GEO_AREA: CLM/CLM RAIN CLIMATICAL ZONE: N
SATELLITE NAME: USASAT-60I SATELLITE ORBITAL POSITION: -45.00 DEG
ANTENNA AZIMUTH: 98.36 DEG ANTENNA ELEVATION: 55.62 DEG
FREQUENCY BAND: 3838.20-3841.30 MHZ ASSIGNED FREQUENCY: 3839.75 MHZ PERCENTAGE OF TIME: 0.0017 %
MAXIMUM ANTENNA GAIN: 42.1 DBI MAXIMUM POWER DENSITY: - DBW/HZ NOISE TEMPERATURE: 400.0 K
ANTENNA PATTERN: APEREC015V01
2.1_TABLE8 Model: PLM_DUCTING

TRANSMISSION LOSS MODE 1: 198.9 DB (DOES NOT INCLUDE HOR. CORR. AND ANT. GAIN)
TRANSMISSION LOSS MODE 2: 156.9 DB

AZIMUTH	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115
OFF-AXIS	94.7	91.9	89.1	86.3	83.5	80.7	78.0	75.3	72.8	70.3	68.0	65.8	63.7	61.9	60.2	58.8	57.6	56.7	56.0	55.7	55.6	55.9	56.4	57.2
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375
MODE 2																								
0.0 DEG	369	369	369	369	369	369	369	370	370	370	370	370	370	370	370	370	370	370	370	370	370	370	370	370

AZIMUTH	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235
OFF-AXIS	58.3	59.7	61.3	63.1	65.0	67.2	69.5	71.9	74.4	77.1	79.8	82.5	85.3	88.1	90.9	93.7	96.5	99.3	102.0	104.7	107.2	109.7	112.0	114.2
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375
MODE 2																								
0.0 DEG	370	370	370	370	370	370	370	370	370	369	369	369	369	369	369	369	368	368	368	368	368	368	368	368

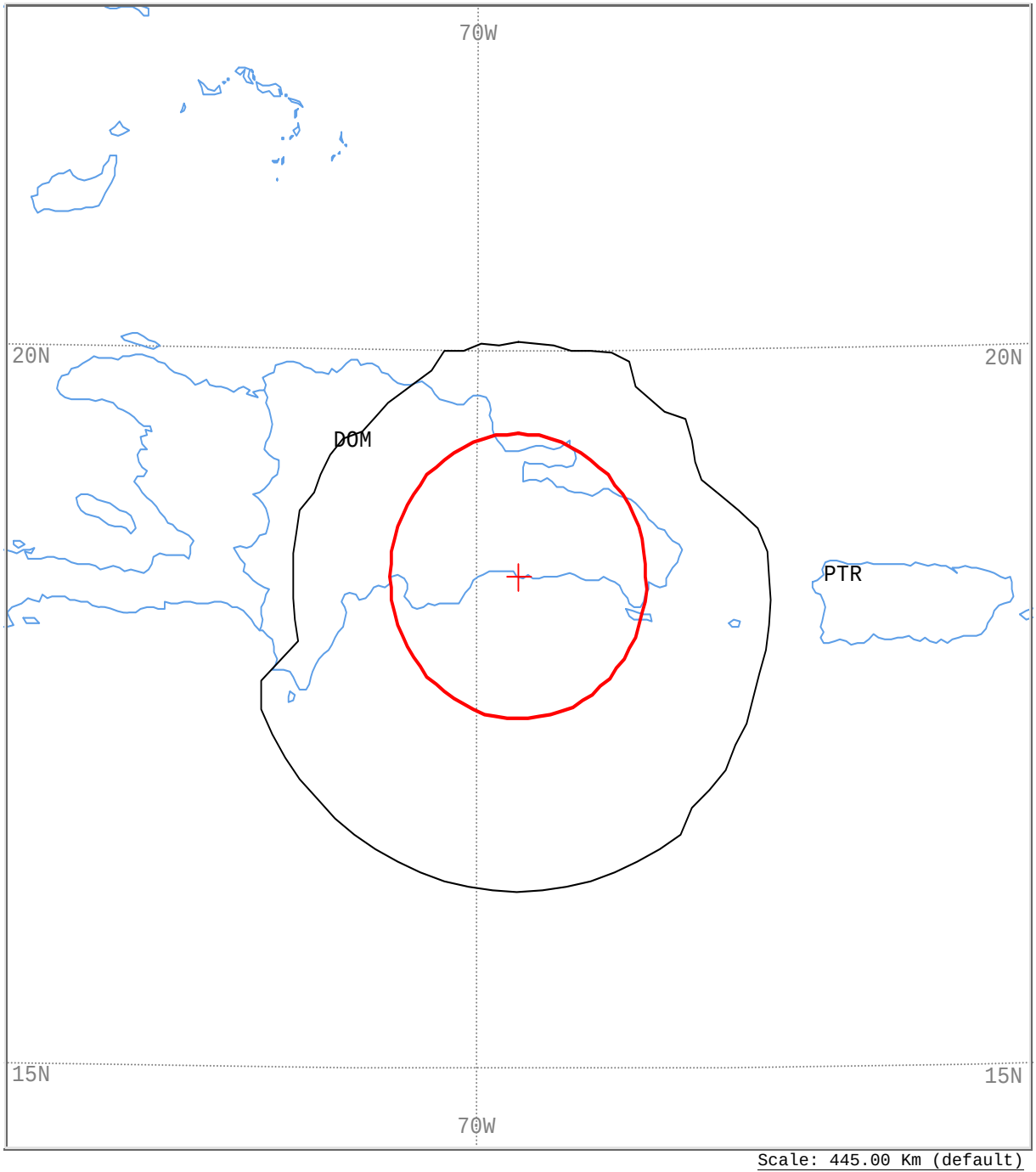
AZIMUTH	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355
OFF-AXIS	116.3	118.1	119.8	121.2	122.4	123.3	124.0	124.3	124.4	124.1	123.6	122.8	121.7	120.3	118.7	116.9	115.0	112.8	110.5	108.1	105.6	102.9	100.2	97.5
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	375	375	401	401	401	401	401	401	401	401	401	375	375	401	375	375	375	375	375	375	375	375	375	375
MODE 2																								
0.0 DEG	367	367	367	367	367	367	367	367	367	367	367	367	367	367	367	367	368	368	368	368	368	368	368	368

PROBABLY AFFECTED COUNTRIES: VEN

Diagram 1: 2.1_TABLE7. TRANSMITTING GSO ES in FIXED-SATELLITE SERVICE W.R.T. RECEIVING TERRESTRIAL STATIONS. TS: fixed, mobile

Notice ID: 18
Administration/Geographical area: DOM/DOM
Satellite orbital position: -45.00
Frequency band: 6063.20-6066.30 MHz

Earth station name: MEVAIII-SANTO DOMING
Earth station position: 069W400818N2546
Satellite name: USASAT-60I



Scale: 445.00 Km (default)

ES position
Main Mode1
Main Mode2

ANALYSIS DATE AND TIME: 2014-11-27 12:18:40

VERSION: 2.1.0.1Appendix 7 Pack/Plt-2.0.0.4/Frm-2.0.0.1/Clc-2.0.0.0/Prp-1.2.0.0/SNS-2.0.0.0/AP7F-2.0.0.0/Ref-2.0.0.1

Diagram 1: 2.1_TABLE7. TRANSMITTING GSO ES in FIXED-SATELLITE SERVICE W.R.T. RECEIVING TERRESTRIAL STATIONS. TS: fixed, mobile

NOTICE ID: 18 EARTH STATION NAME: MEVAIII-SANTO DOMING EARTH STATION POSITION: 069W400818N2546 PHASE: D
ADM/GEO_AREA: DOM/DOM RAIN CLIMATICAL ZONE: N
SATELLITE NAME: USASAT-60I SATELLITE ORBITAL POSITION: -45.00 DEG
ANTENNA AZIMUTH: 124.54 DEG ANTENNA ELEVATION: 54.53 DEG
FREQUENCY BAND: 6063.20-6066.30 MHZ ASSIGNED FREQUENCY: 6064.75 MHZ PERCENTAGE OF TIME: 0.0050 %
MAXIMUM ANTENNA GAIN: 49.0 DBI MAXIMUM POWER DENSITY: -52.3 DBW/HZ NOISE TEMPERATURE: - K
ANTENNA PATTERN: APEREC015V01
2.1_TABLE7 Model: PLM_DUCTING

TRANSMISSION LOSS MODE 1: 160.7 DB (DOES NOT INCLUDE HOR. CORR. AND ANT. GAIN)
TRANSMISSION LOSS MODE 2: 114.7 DB

AZIMUTH	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115
OFF-AXIS	109.2	106.6	103.9	101.2	98.4	95.5	92.6	89.7	86.8	84.0	81.1	78.3	75.6	72.9	70.3	67.9	65.6	63.4	61.4	59.7	58.1	56.8	55.8	55.1
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	181	180	181	180	185	191	192	179	178	179	190	183	177	176	185	197	211	217	217	219	221	222	222	224
MODE 2																								
0.0 DEG	110	110	110	110	110	110	110	110	110	110	110	111	111	111	111	111	111	111	111	112	112	112	112	112

AZIMUTH	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235
OFF-AXIS	54.7	54.5	54.7	55.2	56.0	57.1	58.4	60.0	61.8	63.8	66.0	68.3	70.8	73.4	76.1	78.8	81.6	84.5	87.4	90.3	93.2	96.0	98.9	101.7
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	229	229	235	235	235	245	245	245	245	245	245	245	245	245	245	245	245	245	245	245	245	245	245	245
MODE 2																								
0.0 DEG	112	112	112	112	112	112	112	112	111	111	111	111	111	111	111	111	110	110	110	110	110	110	110	110

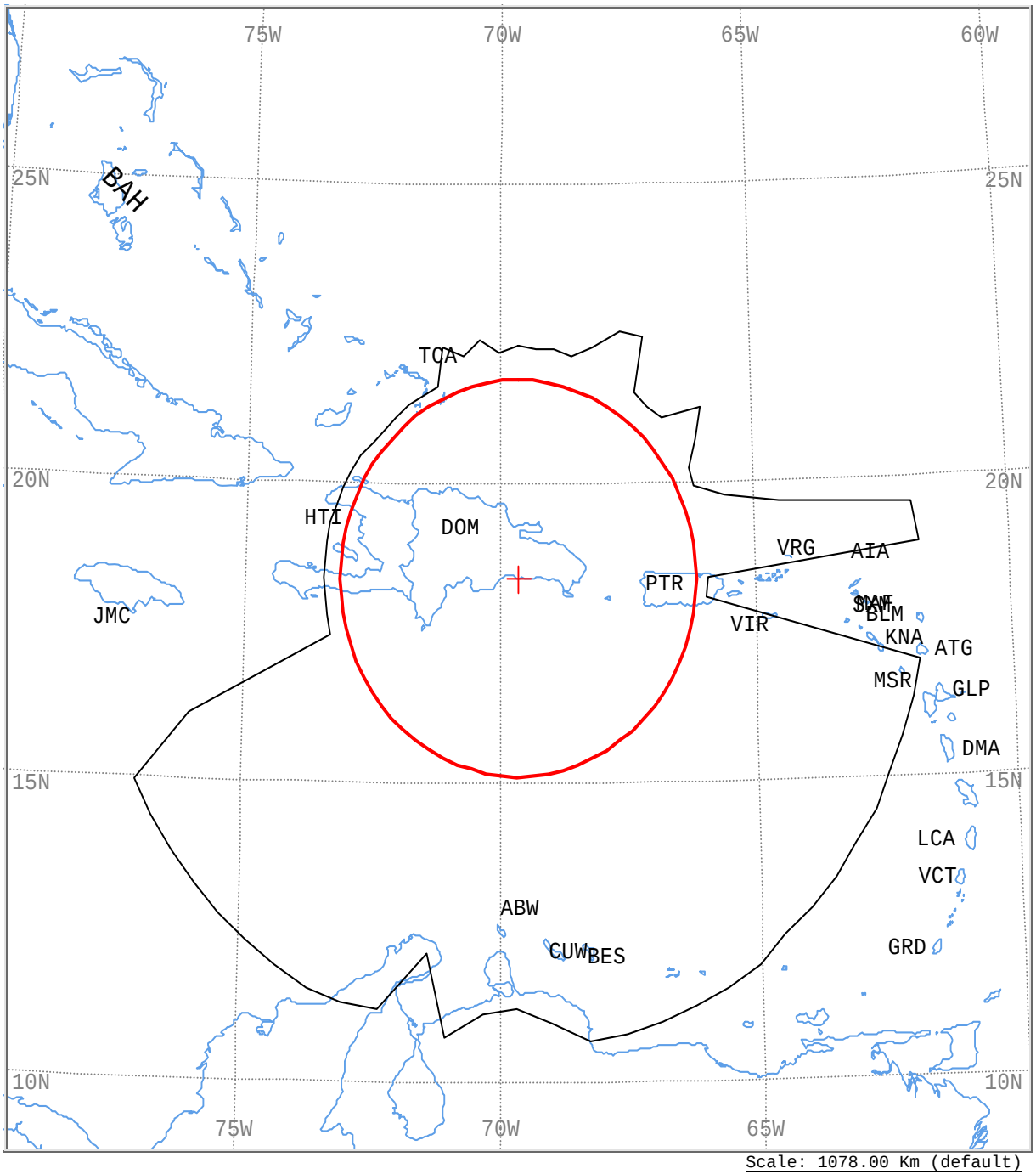
AZIMUTH	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355
OFF-AXIS	104.4	107.1	109.7	112.1	114.4	116.6	118.6	120.3	121.9	123.2	124.2	124.9	125.3	125.5	125.3	124.8	124.0	122.9	121.6	120.0	118.2	116.2	114.0	111.7
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	245	244	236	196	195	194	194	194	194	194	187	187	187	184	174	174	174	174	174	175	185	180	183	179
MODE 2																								
0.0 DEG	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110

PROBABLY AFFECTED COUNTRIES: PTR

Diagram 2: 2.1_TABLE8. RECEIVING GSO ES in FIXED-SATELLITE SERVICE W.R.T. TRANSMITTING TERRESTRIAL STATIONS. TS: fixed, mobile

Notice ID: 18
Administration/Geographical area: DOM/DOM
Satellite orbital position: -45.00
Frequency band: 3838.20-3841.30 MHz

Earth station name: MEVAIII-SANTO DOMING
Earth station position: 069W400818N2546
Satellite name: USASAT-60I



Scale: 1078.00 Km (default)

ES position
Main Mode1
Main Mode2

Diagram 2: 2.1_TABLE8. RECEIVING GSO ES in FIXED-SATELLITE SERVICE W.R.T. TRANSMITTING TERRESTRIAL STATIONS. TS: fixed, mobile

NOTICE ID: 18 EARTH STATION NAME: MEVAIII-SANTO DOMING EARTH STATION POSITION: 069W400818N2546 PHASE: D
ADM/GEO_AREA: DOM/DOM RAIN CLIMATICAL ZONE: N
SATELLITE NAME: USASAT-60I SATELLITE ORBITAL POSITION: -45.00 DEG
ANTENNA AZIMUTH: 124.54 DEG ANTENNA ELEVATION: 54.53 DEG
FREQUENCY BAND: 3838.20-3841.30 MHZ ASSIGNED FREQUENCY: 3839.75 MHZ PERCENTAGE OF TIME: 0.0017 %
MAXIMUM ANTENNA GAIN: 42.1 DBI MAXIMUM POWER DENSITY: - DBW/HZ NOISE TEMPERATURE: 400.0 K
ANTENNA PATTERN: APEREC015V01
2.1_TABLE8 Model: PLM_DUCTING

TRANSMISSION LOSS MODE 1: 198.9 DB (DOES NOT INCLUDE HOR. CORR. AND ANT. GAIN)
TRANSMISSION LOSS MODE 2: 156.9 DB

AZIMUTH	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115
OFF-AXIS	109.2	106.6	103.9	101.2	98.4	95.5	92.6	89.7	86.8	84.0	81.1	78.3	75.6	72.9	70.3	67.9	65.6	63.4	61.4	59.7	58.1	56.8	55.8	55.1
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	430	425	430	425	456	504	517	421	417	421	493	448	410	403	456	560	828	835	395	393	846	849	849	851
MODE 2																								
0.0 DEG	368	368	368	368	368	368	369	369	369	369	369	369	370	370	370	370	370	370	370	370	370	370	371	371

AZIMUTH	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235
OFF-AXIS	54.7	54.5	54.7	55.2	56.0	57.1	58.4	60.0	61.8	63.8	66.0	68.3	70.8	73.4	76.1	78.8	81.6	84.5	87.4	90.3	93.2	96.0	98.9	101.7
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	858	858	865	865	865	878	878	878	878	878	873	830	800	814	866	722	852	869	878	878	878	878	878	878
MODE 2																								
0.0 DEG	371	371	371	371	370	370	370	370	370	370	370	370	370	370	370	369	369	369	369	369	369	368	368	368

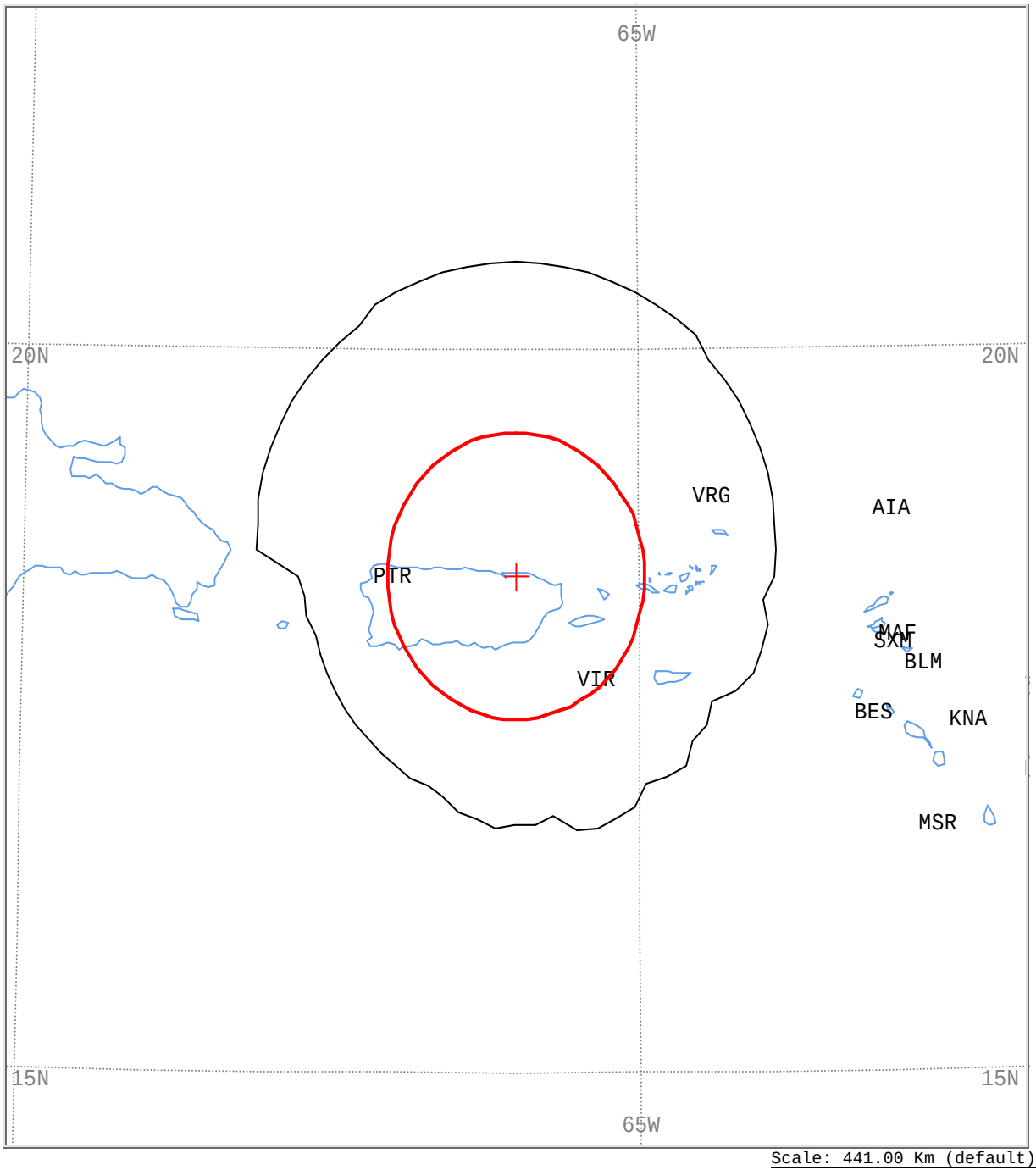
AZIMUTH	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355
OFF-AXIS	104.4	107.1	109.7	112.1	114.4	116.6	118.6	120.3	121.9	123.2	124.2	124.9	125.3	125.5	125.3	124.8	124.0	122.9	121.6	120.0	118.2	116.2	114.0	111.7
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	878	875	724	401	401	401	401	401	401	401	398	398	398	396	391	391	391	391	392	393	456	425	448	421
MODE 2																								
0.0 DEG	368	368	368	368	368	367	367	367	367	367	367	367	367	367	367	367	367	367	367	367	367	367	368	368

PROBABLY AFFECTED COUNTRIES: ABW BES CLM CUW HTI KNA MSR PTR TCA VEN VIR VRG

Diagram 1: 2.1_TABLE7. TRANSMITTING GSO ES in FIXED-SATELLITE SERVICE W.R.T. RECEIVING TERRESTRIAL STATIONS. TS: fixed, mobile

Notice ID: 17
Administration/Geographical area: PTR/USA
Satellite orbital position: -45.00
Frequency band: 6063.20-6066.30 MHz

Earth station name: MEVAIII-SAN JUAN
Earth station position: 066W000618N2622
Satellite name: USASAT-60I



Scale: 441.00 Km (default)

ES position
Main Mode1
Main Mode2

Diagram 1: 2.1_TABLE7. TRANSMITTING GSO ES in FIXED-SATELLITE SERVICE W.R.T. RECEIVING TERRESTRIAL STATIONS. TS: fixed, mobile

NOTICE ID: 17 EARTH STATION NAME: MEVAIII-SAN JUAN EARTH STATION POSITION: 066W000618N2622 PHASE: D
ADM/GEO_AREA: PTR/USA RAIN CLIMATICAL ZONE: N
SATELLITE NAME: USASAT-60I SATELLITE ORBITAL POSITION: -45.00 DEG
ANTENNA AZIMUTH: 129.49 DEG ANTENNA ELEVATION: 57.70 DEG
FREQUENCY BAND: 6063.20-6066.30 MHZ ASSIGNED FREQUENCY: 6064.75 MHZ PERCENTAGE OF TIME: 0.0050 %
MAXIMUM ANTENNA GAIN: 49.0 DBI MAXIMUM POWER DENSITY: -51.7 DBW/HZ NOISE TEMPERATURE: - K
ANTENNA PATTERN: APEREC015V01
2.1_TABLE7 Model: PLM_DUCTING

TRANSMISSION LOSS MODE 1: 161.3 DB (DOES NOT INCLUDE HOR. CORR. AND ANT. GAIN)
TRANSMISSION LOSS MODE 2: 115.3 DB

AZIMUTH	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115
OFF-AXIS	109.9	107.6	105.2	102.8	100.3	97.7	95.1	92.4	89.7	87.1	84.4	81.8	79.2	76.7	74.3	71.9	69.7	67.6	65.6	63.9	62.3	60.9	59.8	58.8
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	241	241	241	241	241	241	241	241	241	235	235	235	232	232	230	228	225	224	222	214	220	218	218	209
MODE 2																								
0.0 DEG	110	110	110	110	110	110	110	110	110	110	110	110	111	111	111	111	111	111	111	111	111	111	111	112

AZIMUTH	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235
OFF-AXIS	58.2	57.8	57.7	57.9	58.3	59.0	60.0	61.2	62.6	64.2	66.0	68.0	70.1	72.4	74.8	77.2	79.7	82.3	84.9	87.6	90.3	92.9	95.6	98.2
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	195	200	198	208	202	195	205	206	207	203	188	193	192	196	190	189	181	179	180	178	178	178	178	178
MODE 2																								
0.0 DEG	112	112	112	112	112	112	111	111	111	111	111	111	111	111	111	111	111	110	110	110	110	110	110	110

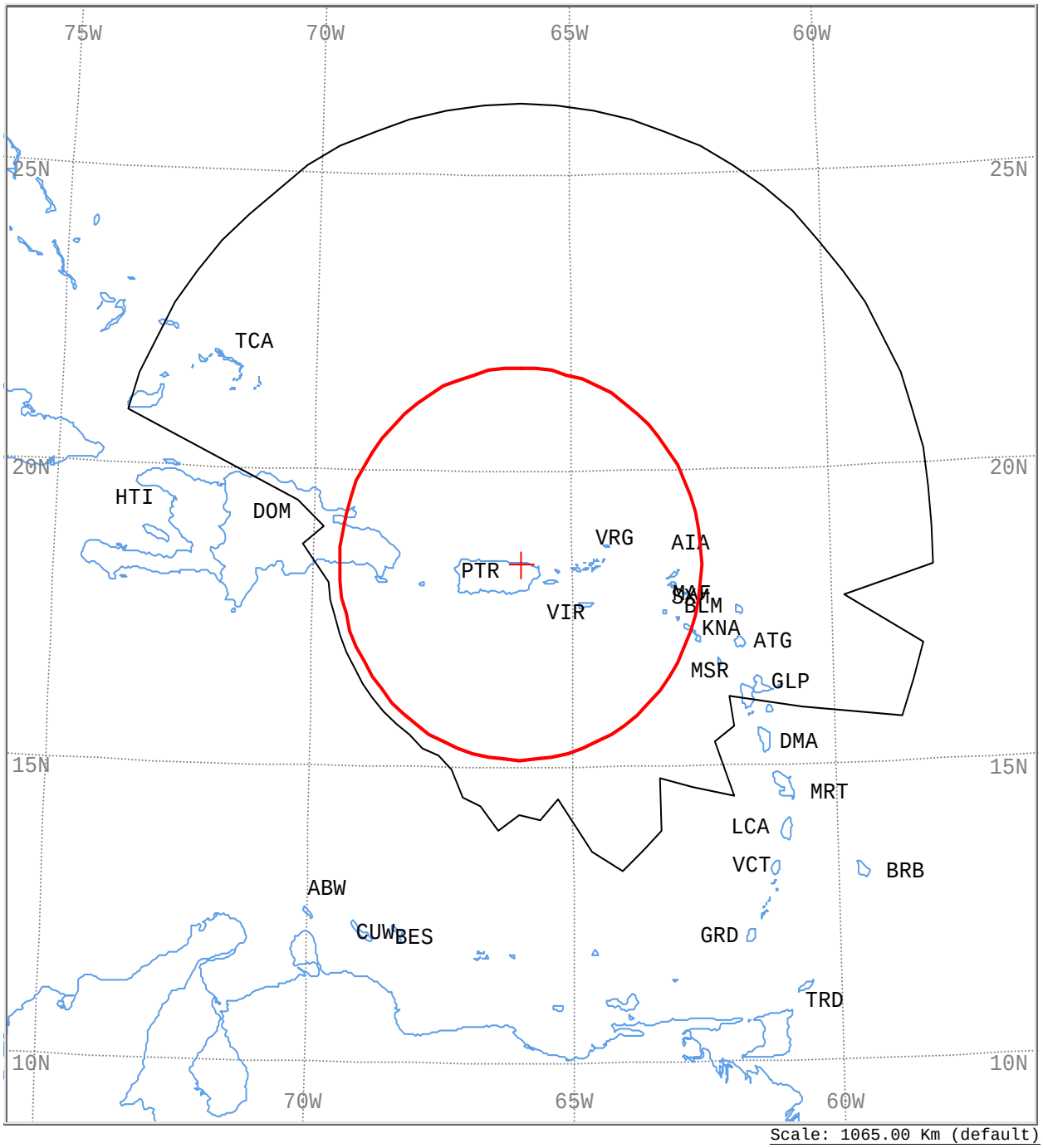
AZIMUTH	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355
OFF-AXIS	100.8	103.3	105.7	108.1	110.3	112.4	114.4	116.1	117.7	119.1	120.2	121.2	121.8	122.2	122.3	122.1	121.7	121.0	120.0	118.8	117.4	115.8	114.0	112.0
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	178	178	178	178	182	182	186	223	224	228	230	232	232	235	235	235	235	235	241	241	241	241	241	241
MODE 2																								
0.0 DEG	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110

PROBABLY AFFECTED COUNTRIES: VIR VRG

Diagram 2: 2.1_TABLE8. RECEIVING GSO ES in FIXED-SATELLITE SERVICE W.R.T. TRANSMITTING TERRESTRIAL STATIONS. TS: fixed, mobile

Notice ID: 17
Administration/Geographical area: PTR/USA
Satellite orbital position: -45.00
Frequency band: 3838.20-3841.30 MHz

Earth station name: MEVAIII-SAN JUAN
Earth station position: 066W000618N2622
Satellite name: USASAT-60I



Scale: 1065.00 Km (default)

ES position
Main Mode1
Main Mode2

Diagram 2: 2.1_TABLE8. RECEIVING GSO ES in FIXED-SATELLITE SERVICE W.R.T. TRANSMITTING TERRESTRIAL STATIONS. TS: fixed, mobile

NOTICE ID: 17 EARTH STATION NAME: MEVAIII-SAN JUAN EARTH STATION POSITION: 066W000618N2622 PHASE: D
ADM/GEO_AREA: PTR/USA RAIN CLIMATICAL ZONE: N
SATELLITE NAME: USASAT-60I SATELLITE ORBITAL POSITION: -45.00 DEG
ANTENNA AZIMUTH: 129.49 DEG ANTENNA ELEVATION: 57.70 DEG
FREQUENCY BAND: 3838.20-3841.30 MHZ ASSIGNED FREQUENCY: 3839.75 MHZ PERCENTAGE OF TIME: 0.0017 %
MAXIMUM ANTENNA GAIN: 42.1 DBI MAXIMUM POWER DENSITY: - DBW/HZ NOISE TEMPERATURE: 400.0 K
ANTENNA PATTERN: APEREC015V01
2.1_TABLE8 Model: PLM_DUCTING

TRANSMISSION LOSS MODE 1: 198.9 DB (DOES NOT INCLUDE HOR. CORR. AND ANT. GAIN)
TRANSMISSION LOSS MODE 2: 156.9 DB

AZIMUTH	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115
OFF-AXIS	109.9	107.6	105.2	102.8	100.3	97.7	95.1	92.4	89.7	87.1	84.4	81.8	79.2	76.7	74.3	71.9	69.7	67.6	65.6	63.9	62.3	60.9	59.8	58.8
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	865	865	865	865	865	865	865	865	865	858	858	858	854	854	851	849	844	842	840	662	835	831	829	635
MODE 2																								
0.0 DEG	368	368	368	368	368	368	369	369	369	369	369	369	369	369	370	370	370	370	370	370	370	370	370	370

AZIMUTH	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235
OFF-AXIS	58.2	57.8	57.7	57.9	58.3	59.0	60.0	61.2	62.6	64.2	66.0	68.0	70.1	72.4	74.8	77.2	79.7	82.3	84.9	87.6	90.3	92.9	95.6	98.2
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	494	531	518	615	546	494	578	595	614	560	449	483	473	505	464	456	410	396	401	393	392	392	392	391
MODE 2																								
0.0 DEG	370	370	370	370	370	370	370	370	370	370	370	370	370	370	370	369	369	369	369	369	369	369	368	368

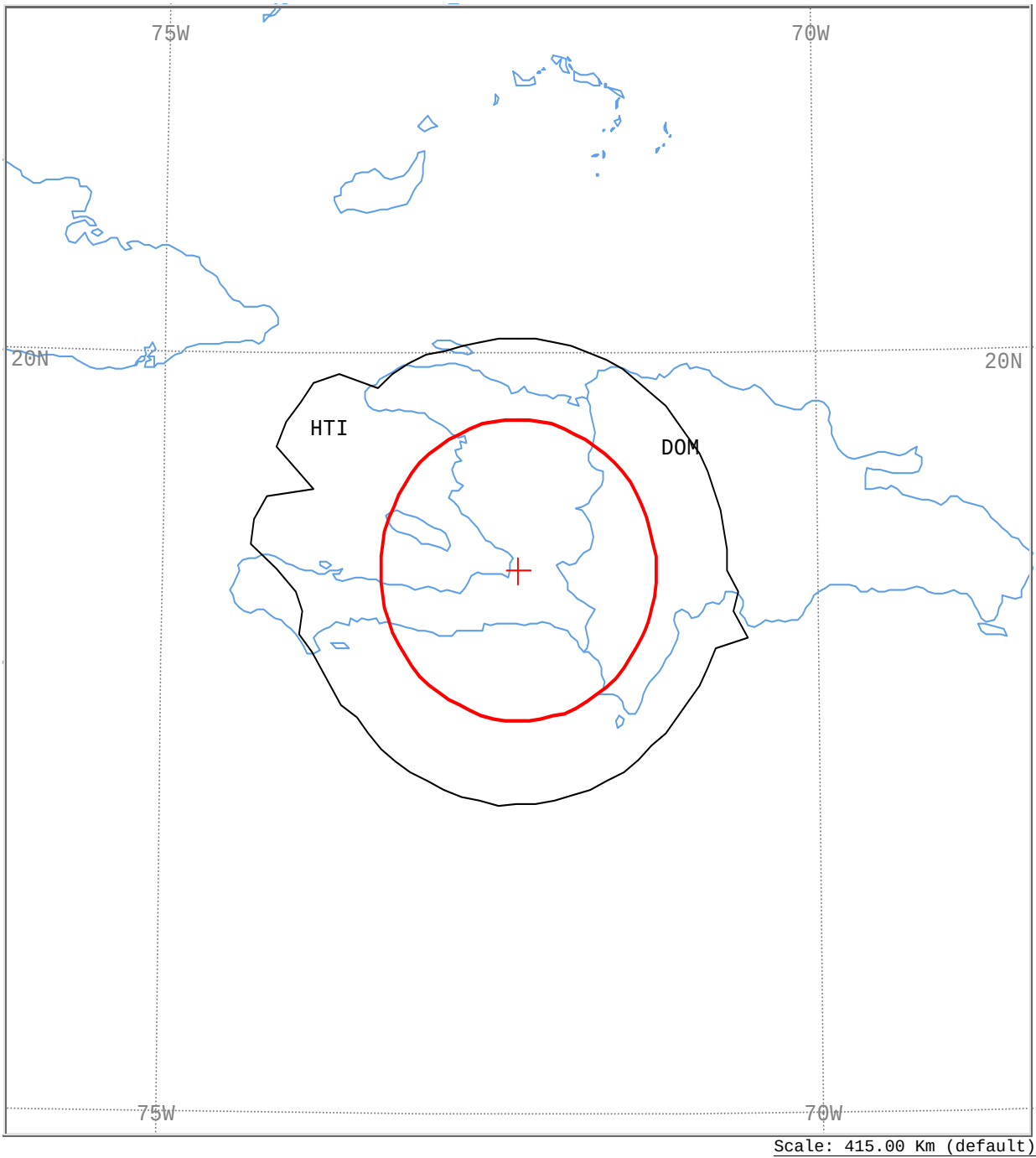
AZIMUTH	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355
OFF-AXIS	100.8	103.3	105.7	108.1	110.3	112.4	114.4	116.1	117.7	119.1	120.2	121.2	121.8	122.2	122.3	122.1	121.7	121.0	120.0	118.8	117.4	115.8	114.0	112.0
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	391	391	391	391	393	393	415	444	405	470	851	854	854	858	858	858	858	858	865	865	865	865	865	865
MODE 2																								
0.0 DEG	368	368	368	368	368	368	368	367	367	367	367	367	367	367	367	367	367	367	367	367	367	367	368	368

PROBABLY AFFECTED COUNTRIES: AIA ATG BAH BES BLM DOM GLP KNA MAF MSR SXM TCA VIR VRG

Diagram 1: 2.1_TABLE7. TRANSMITTING GSO ES in FIXED-SATELLITE SERVICE W.R.T. RECEIVING TERRESTRIAL STATIONS. TS: fixed, mobile

Notice ID: 16
Administration/Geographical area: HTI/HTI
Satellite orbital position: -45.00
Frequency band: 6063.20-6066.30 MHz

Earth station name: MEVAIII-PORT-AU-PRIN
Earth station position: 072W173318N3448
Satellite name: USASAT-60I



Scale: 415.00 Km (default)

ES position
Main Mode1
Main Mode2

Diagram 1: 2.1_TABLE7. TRANSMITTING GSO ES in FIXED-SATELLITE SERVICE W.R.T. RECEIVING TERRESTRIAL STATIONS. TS: fixed, mobile

NOTICE ID: 16 EARTH STATION NAME: MEVAIII-PORT-AU-PRIN EARTH STATION POSITION: 072W173318N3448 PHASE: D
ADM/GEO_AREA: HTI/HTI RAIN CLIMATICAL ZONE: N
SATELLITE NAME: USASAT-60I SATELLITE ORBITAL POSITION: -45.00 DEG
ANTENNA AZIMUTH: 121.70 DEG ANTENNA ELEVATION: 52.06 DEG
FREQUENCY BAND: 6063.20-6066.30 MHZ ASSIGNED FREQUENCY: 6064.75 MHZ PERCENTAGE OF TIME: 0.0050 %
MAXIMUM ANTENNA GAIN: 49.0 DBI MAXIMUM POWER DENSITY: -53.0 DBW/HZ NOISE TEMPERATURE: - K
ANTENNA PATTERN: APEREC015V01
2.1_TABLE7 Model: PLM_DUCTING

TRANSMISSION LOSS MODE 1: 160.0 DB (DOES NOT INCLUDE HOR. CORR. AND ANT. GAIN)
TRANSMISSION LOSS MODE 2: 114.0 DB

AZIMUTH	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115
OFF-AXIS	108.8	106.0	103.1	100.2	97.2	94.1	91.0	88.0	84.9	81.9	78.9	75.9	73.1	70.3	67.6	65.1	62.7	60.5	58.5	56.7	55.2	53.9	53.0	52.4
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	169	169	169	169	169	169	169	169	169	169	169	169	169	169	169	169	169	169	169	179	177	192	170	169
MODE 2																								
0.0 DEG	110	110	110	110	110	110	110	110	110	110	111	111	111	111	111	111	111	112	112	112	112	112	112	112

AZIMUTH	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235
OFF-AXIS	52.1	52.1	52.5	53.3	54.3	55.6	57.2	59.1	61.2	63.4	65.9	68.4	71.2	74.0	76.9	79.8	82.8	85.9	89.0	92.0	95.1	98.1	101.1	104.1
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	169	169	169	169	169	170	171	171	171	171	172	172	172	173	172	172	172	171	171	171	171	169	169	173
MODE 2																								
0.0 DEG	112	112	112	112	112	112	112	112	112	111	111	111	111	111	111	111	110	110	110	110	110	110	110	110

AZIMUTH	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355
OFF-AXIS	106.9	109.7	112.4	114.9	117.3	119.5	121.5	123.3	124.8	126.1	127.0	127.6	127.9	127.9	127.5	126.7	125.7	124.4	122.8	120.9	118.8	116.6	114.1	111.6
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	173	174	175	181	175	179	194	215	215	209	174	214	215	213	213	202	174	174	174	173	170	169	169	169
MODE 2																								
0.0 DEG	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110

PROBABLY AFFECTED COUNTRIES: DOM

Diagram 2: 2.1_TABLE8. RECEIVING GSO ES in FIXED-SATELLITE SERVICE W.R.T. TRANSMITTING TERRESTRIAL STATIONS. TS: fixed, mobile

Notice ID: 16
Administration/Geographical area: HTI/HTI
Satellite orbital position: -45.00
Frequency band: 3838.20-3841.30 MHz

Earth station name: MEVAIII-PORT-AU-PRIN
Earth station position: 072W173318N3448
Satellite name: USASAT-60I

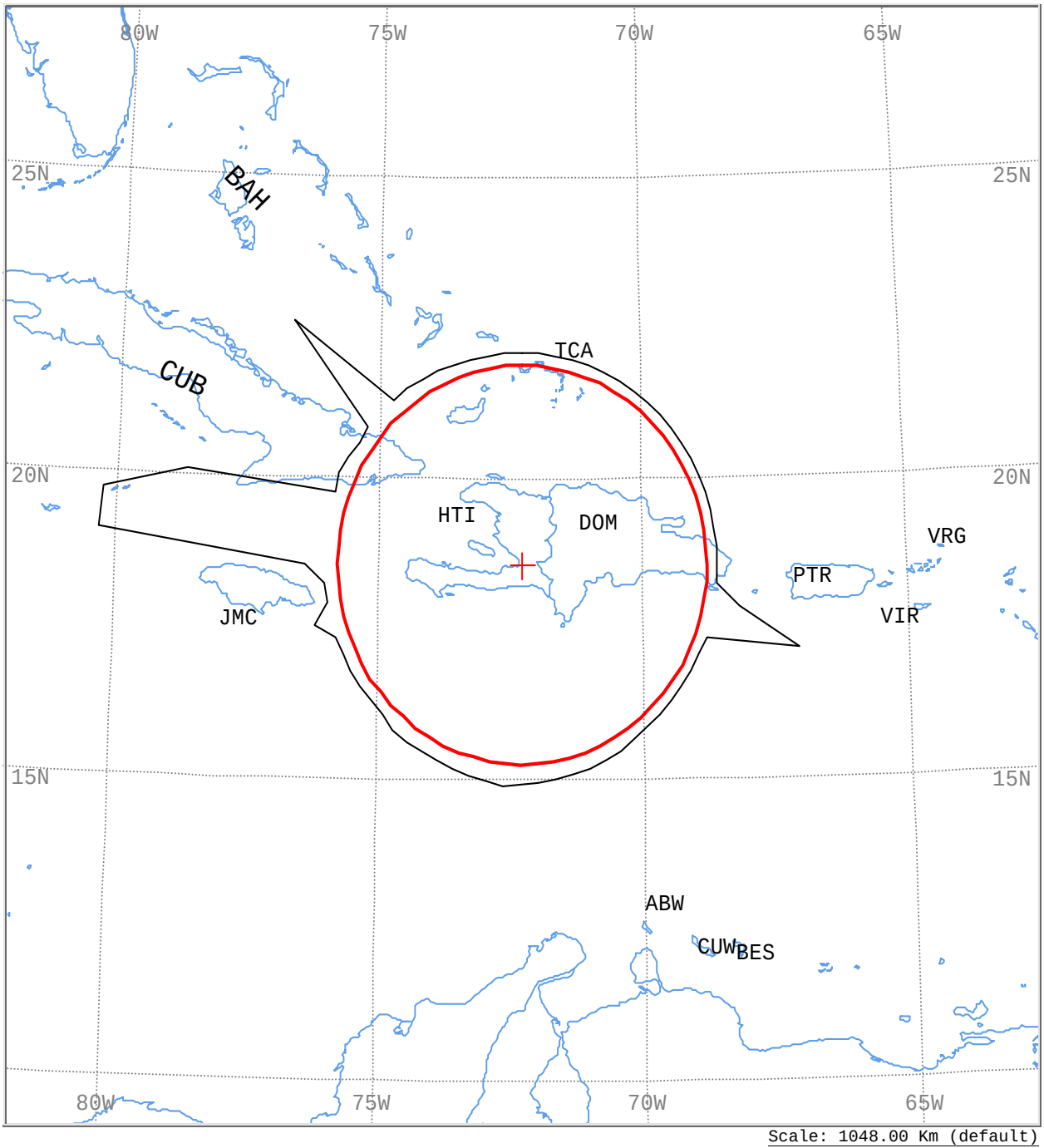


Diagram 2: 2.1_TABLE8. RECEIVING GSO ES in FIXED-SATELLITE SERVICE W.R.T. TRANSMITTING TERRESTRIAL STATIONS. TS: fixed, mobile

NOTICE ID: 16 EARTH STATION NAME: MEVAIII-PORT-AU-PRIN EARTH STATION POSITION: 072W173318N3448 PHASE: D
ADM/GEO_AREA: HTI/HTI RAIN CLIMATICAL ZONE: N
SATELLITE NAME: USASAT-60I SATELLITE ORBITAL POSITION: -45.00 DEG
ANTENNA AZIMUTH: 121.70 DEG ANTENNA ELEVATION: 52.06 DEG
FREQUENCY BAND: 3838.20-3841.30 MHZ ASSIGNED FREQUENCY: 3839.75 MHZ PERCENTAGE OF TIME: 0.0017 %
MAXIMUM ANTENNA GAIN: 42.1 DBI MAXIMUM POWER DENSITY: - DBW/HZ NOISE TEMPERATURE: 400.0 K
ANTENNA PATTERN: APEREC015V01
2.1_TABLE8 Model: PLM_DUCTING

TRANSMISSION LOSS MODE 1: 198.9 DB (DOES NOT INCLUDE HOR. CORR. AND ANT. GAIN)
TRANSMISSION LOSS MODE 2: 156.9 DB

AZIMUTH	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115
OFF-AXIS	108.8	106.0	103.1	100.2	97.2	94.1	91.0	88.0	84.9	81.9	78.9	75.9	73.1	70.3	67.6	65.1	62.7	60.5	58.5	56.7	55.2	53.9	53.0	52.4
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	391	391	391	391	391	391	391	391	391	391	391	391	391	391	391	391	391	391	391	393	442	576	395	391
MODE 2																								
0.0 DEG	368	368	368	368	368	369	369	369	369	369	369	370	370	370	370	370	370	370	370	371	371	371	371	371

AZIMUTH	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235
OFF-AXIS	52.1	52.1	52.5	53.3	54.3	55.6	57.2	59.1	61.2	63.4	65.9	68.4	71.2	74.0	76.9	79.8	82.8	85.9	89.0	92.0	95.1	98.1	101.1	104.1
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	391	391	391	391	391	394	399	400	401	401	403	406	408	411	408	405	403	400	398	401	399	391	391	393
MODE 2																								
0.0 DEG	371	371	371	371	371	371	370	370	370	370	370	370	370	370	369	369	369	369	369	369	368	368	368	368

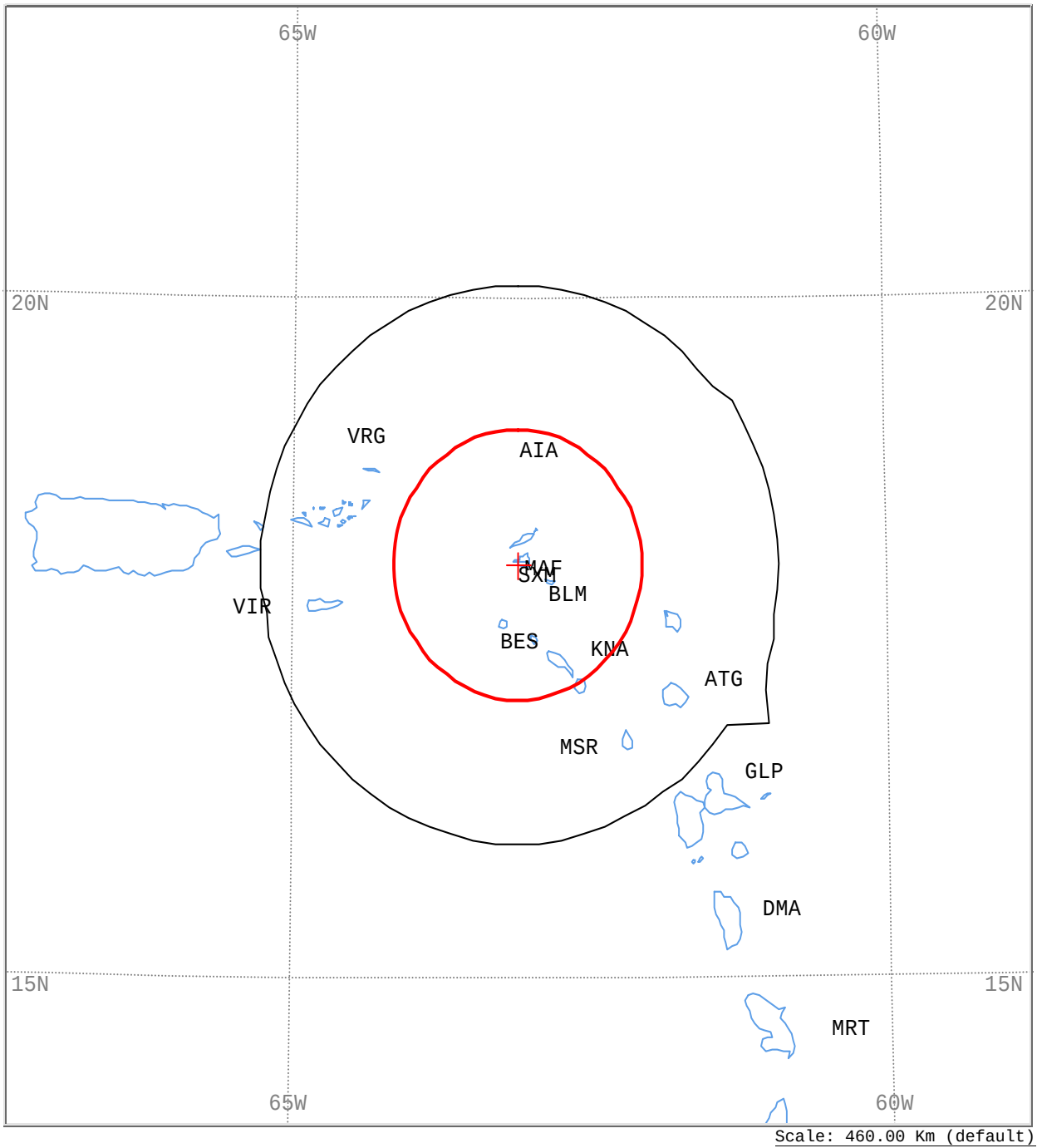
AZIMUTH	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355
OFF-AXIS	106.9	109.7	112.4	114.9	117.3	119.5	121.5	123.3	124.8	126.1	127.0	127.6	127.9	127.9	127.5	126.7	125.7	124.4	122.8	120.9	118.8	116.6	114.1	111.6
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	393	393	394	428	394	394	433	848	848	689	394	404	399	393	398	638	397	397	393	394	392	391	391	391
MODE 2																								
0.0 DEG	368	368	368	367	367	367	367	367	367	367	367	367	367	367	367	367	367	367	367	367	367	367	367	368

PROBABLY AFFECTED COUNTRIES: BAH CUB CYM DOM TCA USA

Diagram 1: 2.1_TABLE7. TRANSMITTING GSO ES in FIXED-SATELLITE SERVICE W.R.T. RECEIVING TERRESTRIAL STATIONS. TS: fixed, mobile

Notice ID: 15
Administration/Geographical area: SXM/HOL
Satellite orbital position: -45.00
Frequency band: 6063.20-6066.30 MHz

Earth station name: MEVAIII-PHILLIPSBURG
Earth station position: 063W063218N0227
Satellite name: USASAT-60I



Scale: 460.00 Km (default)

ES position
Main Mode1
Main Mode2

ANALYSIS DATE AND TIME: 2014-11-27 12:16:40

VERSION: 2.1.0.1Appendix 7 Pack/Plt-2.0.0.4/Frm-2.0.0.1/Clc-2.0.0.0/Prp-1.2.0.0/SNS-2.0.0.0/AP7F-2.0.0.0/Ref-2.0.0.1

Diagram 1: 2.1_TABLE7. TRANSMITTING GSO ES in FIXED-SATELLITE SERVICE W.R.T. RECEIVING TERRESTRIAL STATIONS. TS: fixed, mobile

NOTICE ID: 15 EARTH STATION NAME: MEVAIII-PHILLIPSBURG EARTH STATION POSITION: 063W063218N0227 PHASE: D
ADM/GEO_AREA: SXM/HOL RAIN CLIMATICAL ZONE: N
SATELLITE NAME: USASAT-60I SATELLITE ORBITAL POSITION: -45.00 DEG
ANTENNA AZIMUTH: 133.44 DEG ANTENNA ELEVATION: 60.37 DEG
FREQUENCY BAND: 6063.20-6066.30 MHZ ASSIGNED FREQUENCY: 6064.75 MHZ PERCENTAGE OF TIME: 0.0050 %
MAXIMUM ANTENNA GAIN: 49.0 DBI MAXIMUM POWER DENSITY: -50.9 DBW/HZ NOISE TEMPERATURE: - K
ANTENNA PATTERN: APEREC015V01
2.1_TABLE7 Model: PLM_DUCTING

TRANSMISSION LOSS MODE 1: 162.1 DB (DOES NOT INCLUDE HOR. CORR. AND ANT. GAIN)
TRANSMISSION LOSS MODE 2: 116.1 DB

AZIMUTH	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115
OFF-AXIS	109.9	107.9	105.8	103.6	101.3	99.0	96.6	94.2	91.7	89.2	86.8	84.3	81.9	79.5	77.2	75.0	72.9	70.9	69.0	67.2	65.6	64.2	63.0	62.0
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	228	228	228	228	228	228	228	228	228	227	227	233	232	232	233	233	233	233	233	233	233	237	238	244
MODE 2																								
0.0 DEG	110	110	110	110	110	110	110	110	110	110	110	110	110	111	111	111	111	111	111	111	111	111	111	111

AZIMUTH	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235
OFF-AXIS	61.3	60.7	60.4	60.4	60.6	61.0	61.7	62.6	63.8	65.1	66.6	68.3	70.1	72.1	74.2	76.4	78.7	81.0	83.4	85.8	88.3	90.8	93.2	95.7
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	260	228	228	229	229	226	227	227	228	228	229	229	229	229	229	228	229	229	229	229	229	229	229	229
MODE 2																								
0.0 DEG	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	110	110	110	110	110	110	110

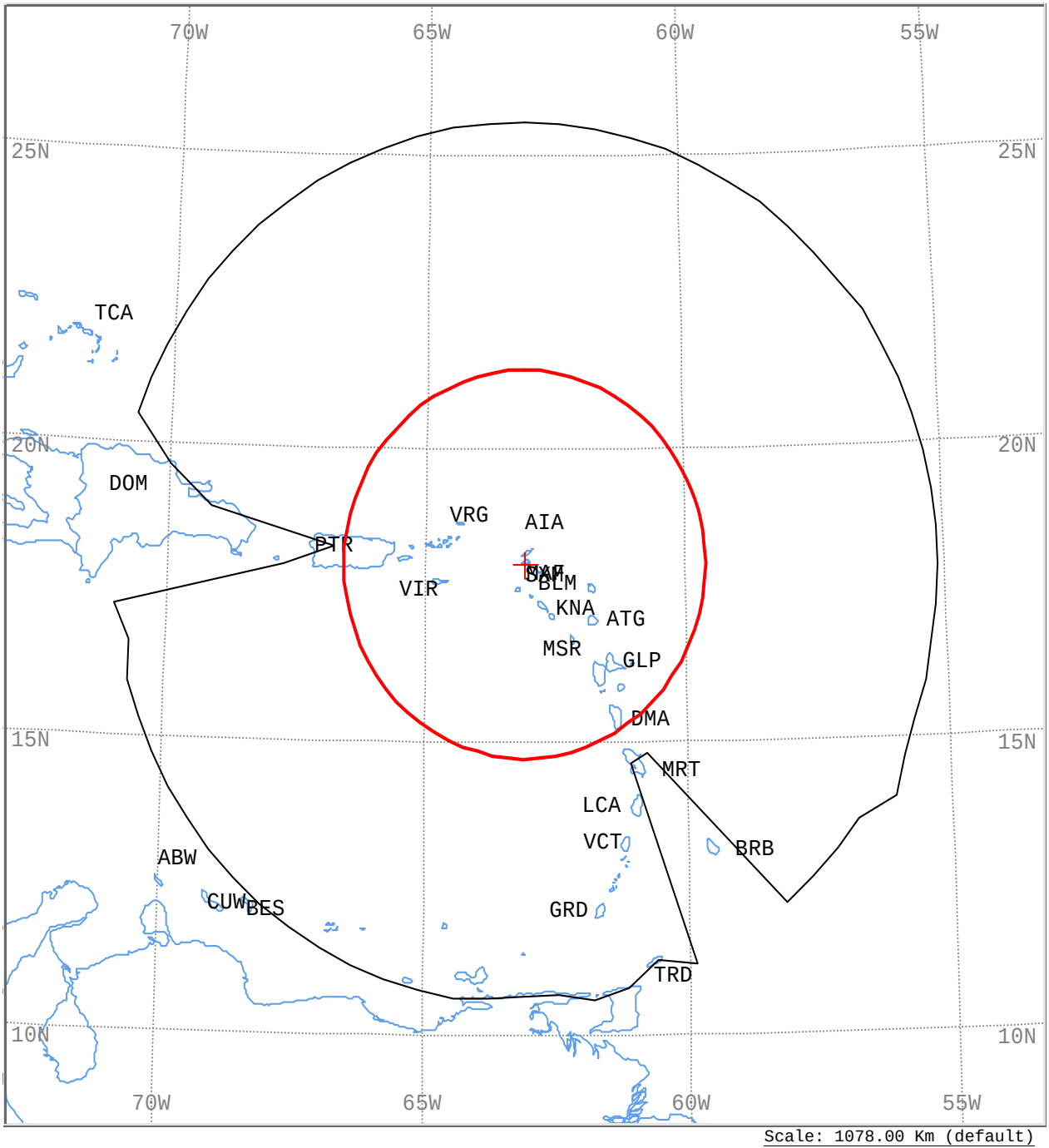
AZIMUTH	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355
OFF-AXIS	98.1	100.5	102.8	105.0	107.1	109.1	111.0	112.8	114.4	115.8	117.0	118.0	118.7	119.3	119.6	119.6	119.4	119.0	118.3	117.4	116.2	114.9	113.4	111.7
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	229	229	229	229	227	229	229	229	228	228	228	229	228	229	229	228	228	228	228	228	228	228	228	228
MODE 2																								
0.0 DEG	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110

PROBABLY AFFECTED COUNTRIES: AIA ATG BES BLM KNA MAF MSR PTR VIR VRG

Diagram 2: 2.1_TABLE8. RECEIVING GSO ES in FIXED-SATELLITE SERVICE W.R.T. TRANSMITTING TERRESTRIAL STATIONS. TS: fixed, mobile

Notice ID: 15
Administration/Geographical area: SXM/HOL
Satellite orbital position: -45.00
Frequency band: 3838.20-3841.30 MHz

Earth station name: MEVAIII-PHILLIPSBURG
Earth station position: 063W063218N0227
Satellite name: USASAT-60I



Scale: 1078.00 Km (default)

ES position
Main Mode1
Main Mode2

Diagram 2: 2.1_TABLE8. RECEIVING GSO ES in FIXED-SATELLITE SERVICE W.R.T. TRANSMITTING TERRESTRIAL STATIONS. TS: fixed, mobile

NOTICE ID: 15 EARTH STATION NAME: MEVAIII-PHILLIPSBURG EARTH STATION POSITION: 063W063218N0227 PHASE: D
ADM/GEO_AREA: SXM/HOL RAIN CLIMATICAL ZONE: N
SATELLITE NAME: USASAT-60I SATELLITE ORBITAL POSITION: -45.00 DEG
ANTENNA AZIMUTH: 133.44 DEG ANTENNA ELEVATION: 60.37 DEG
FREQUENCY BAND: 3838.20-3841.30 MHZ ASSIGNED FREQUENCY: 3839.75 MHZ PERCENTAGE OF TIME: 0.0017 %
MAXIMUM ANTENNA GAIN: 42.1 DBI MAXIMUM POWER DENSITY: - DBW/HZ NOISE TEMPERATURE: 400.0 K
ANTENNA PATTERN: APEREC015V01
2.1_TABLE8 Model: PLM_DUCTING

TRANSMISSION LOSS MODE 1: 198.9 DB (DOES NOT INCLUDE HOR. CORR. AND ANT. GAIN)
TRANSMISSION LOSS MODE 2: 156.9 DB

AZIMUTH	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115
OFF-AXIS	109.9	107.9	105.8	103.6	101.3	99.0	96.6	94.2	91.7	89.2	86.8	84.3	81.9	79.5	77.2	75.0	72.9	70.9	69.0	67.2	65.6	64.2	63.0	62.0
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	839	839	838	838	838	838	838	838	837	837	837	843	842	842	843	843	844	844	844	844	844	849	849	858
MODE 2																								
0.0 DEG	368	368	368	368	368	368	368	369	369	369	369	369	369	369	369	370	370	370	370	370	370	370	370	370

AZIMUTH	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235
OFF-AXIS	61.3	60.7	60.4	60.4	60.6	61.0	61.7	62.6	63.8	65.1	66.6	68.3	70.1	72.1	74.2	76.4	78.7	81.0	83.4	85.8	88.3	90.8	93.2	95.7
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	878	837	837	835	836	438	438	836	799	834	840	820	820	828	837	838	840	840	839	840	840	840	840	840
MODE 2																								
0.0 DEG	370	370	370	370	370	370	370	370	370	370	370	370	370	370	370	369	369	369	369	369	369	369	369	368

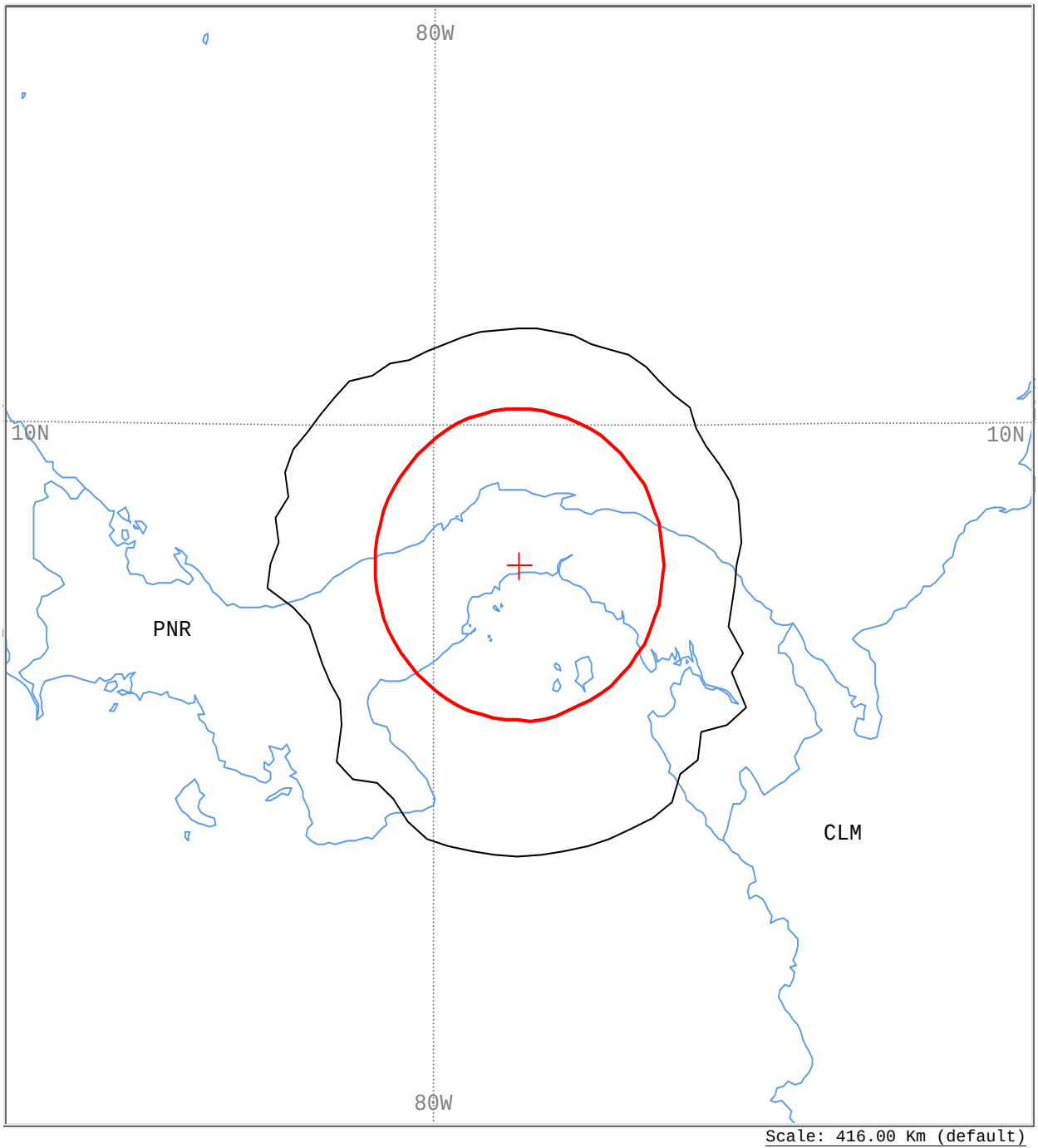
AZIMUTH	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355
OFF-AXIS	98.1	100.5	102.8	105.0	107.1	109.1	111.0	112.8	114.4	115.8	117.0	118.0	118.7	119.3	119.6	119.6	119.4	119.0	118.3	117.4	116.2	114.9	113.4	111.7
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	840	840	840	840	822	840	493	391	647	746	839	840	839	840	840	840	840	840	840	840	839	839	839	839
MODE 2																								
0.0 DEG	368	368	368	368	368	368	368	368	368	368	367	367	367	367	367	367	367	367	367	367	368	368	368	368

PROBABLY AFFECTED COUNTRIES: AIA ATG BES BLM DMA DOM GLP GRD KNA LCA MAF MRT MSR PTR TRD VCT VEN VIR VRG

Diagram 1: 2.1_TABLE7. TRANSMITTING GSO ES in FIXED-SATELLITE SERVICE W.R.T. RECEIVING TERRESTRIAL STATIONS. TS: fixed, mobile

Notice ID: 14
Administration/Geographical area: PNR/PNR
Satellite orbital position: -45.00
Frequency band: 6063.20-6066.30 MHz

Earth station name: MEVAIII-PANAMA CITY
Earth station position: 079W230109N0417
Satellite name: USASAT-60I



ANALYSIS DATE AND TIME: 2014-11-27 12:16:08

VERSION: 2.1.0.1Appendix 7 Pack/Plt-2.0.0.4/Frm-2.0.0.1/Clc-2.0.0.0/Prp-1.2.0.0/SNS-2.0.0.0/AP7F-2.0.0.0/Ref-2.0.0.1

Diagram 1: 2.1_TABLE7. TRANSMITTING GSO ES in FIXED-SATELLITE SERVICE W.R.T. RECEIVING TERRESTRIAL STATIONS. TS: fixed, mobile

NOTICE ID: 14 EARTH STATION NAME: MEVAIII-PANAMA CITY EARTH STATION POSITION: 079W230109N0417 PHASE: D
ADM/GEO_AREA: PNR/PNR RAIN CLIMATICAL ZONE: P
SATELLITE NAME: USASAT-60I SATELLITE ORBITAL POSITION: -45.00 DEG
ANTENNA AZIMUTH: 102.97 DEG ANTENNA ELEVATION: 48.88 DEG
FREQUENCY BAND: 6063.20-6066.30 MHZ ASSIGNED FREQUENCY: 6064.75 MHZ PERCENTAGE OF TIME: 0.0050 %
MAXIMUM ANTENNA GAIN: 49.0 DBI MAXIMUM POWER DENSITY: -53.1 DBW/HZ NOISE TEMPERATURE: - K
ANTENNA PATTERN: APEREC015V01
2.1_TABLE7 Model: PLM_DUCTING

TRANSMISSION LOSS MODE 1: 159.9 DB (DOES NOT INCLUDE HOR. CORR. AND ANT. GAIN)
TRANSMISSION LOSS MODE 2: 113.9 DB

AZIMUTH	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115
OFF-AXIS	98.5	95.2	92.0	88.7	85.4	82.1	78.9	75.7	72.6	69.6	66.7	63.9	61.2	58.8	56.5	54.5	52.7	51.3	50.1	49.4	48.9	48.9	49.3	50.0
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	174	175	175	175	174	175	179	179	177	177	180	175	174	178	182	183	181	181	176	175	174	176	193	190
MODE 2																								
0.0 DEG	115	115	115	115	115	115	116	116	116	116	116	116	117	117	117	117	117	117	117	117	117	117	117	117

AZIMUTH	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235
OFF-AXIS	51.0	52.4	54.1	56.1	58.3	60.8	63.4	66.1	69.0	72.0	75.1	78.3	81.5	84.8	88.0	91.3	94.6	97.9	101.1	104.3	107.4	110.4	113.3	116.1
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	212	206	192	205	203	215	216	216	216	216	216	216	216	216	216	216	216	210	200	198	208	206	185	175
MODE 2																								
0.0 DEG	117	117	117	117	117	117	116	116	116	116	116	116	115	115	115	115	115	115	115	115	115	115	115	115

AZIMUTH	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355
OFF-AXIS	118.8	121.2	123.5	125.5	127.3	128.7	129.9	130.6	131.1	131.1	130.7	130.0	129.0	127.6	125.9	123.9	121.7	119.2	116.6	113.9	111.0	108.0	104.9	101.7
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	174	174	174	174	184	202	199	193	198	192	199	200	196	194	192	191	182	181	174	174	174	174	174	174
MODE 2																								
0.0 DEG	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115

PROBABLY AFFECTED COUNTRIES:

Diagram 2: 2.1_TABLE8. RECEIVING GSO ES in FIXED-SATELLITE SERVICE W.R.T. TRANSMITTING TERRESTRIAL STATIONS. TS: fixed, mobile

Notice ID: 14
Administration/Geographical area: PNR/PNR
Satellite orbital position: -45.00
Frequency band: 3838.20-3841.30 MHz

Earth station name: MEVAIII-PANAMA CITY
Earth station position: 079W230109N0417
Satellite name: USASAT-60I

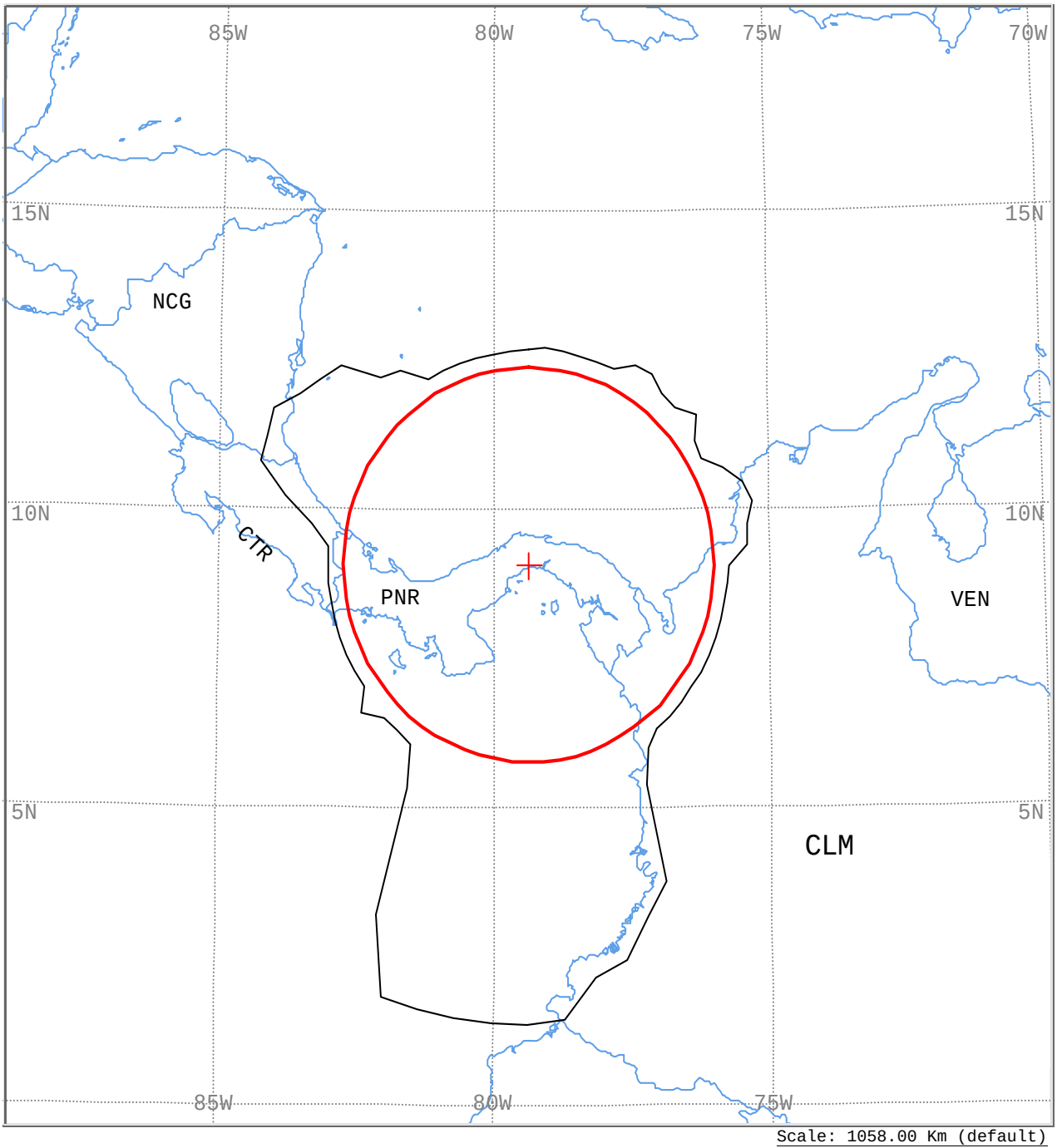


Diagram 2: 2.1_TABLE8. RECEIVING GSO ES in FIXED-SATELLITE SERVICE W.R.T. TRANSMITTING TERRESTRIAL STATIONS. TS: fixed, mobile

NOTICE ID: 14 EARTH STATION NAME: MEVAIII-PANAMA CITY EARTH STATION POSITION: 079W230109N0417 PHASE: D
ADM/GEO_AREA: PNR/PNR RAIN CLIMATICAL ZONE: P
SATELLITE NAME: USASAT-60I SATELLITE ORBITAL POSITION: -45.00 DEG
ANTENNA AZIMUTH: 102.97 DEG ANTENNA ELEVATION: 48.88 DEG
FREQUENCY BAND: 3838.20-3841.30 MHZ ASSIGNED FREQUENCY: 3839.75 MHZ PERCENTAGE OF TIME: 0.0017 %
MAXIMUM ANTENNA GAIN: 42.1 DBI MAXIMUM POWER DENSITY: - DBW/HZ NOISE TEMPERATURE: 400.0 K
ANTENNA PATTERN: APEREC015V01
2.1_TABLE8 Model: PLM_DUCTING

TRANSMISSION LOSS MODE 1: 198.9 DB (DOES NOT INCLUDE HOR. CORR. AND ANT. GAIN)
TRANSMISSION LOSS MODE 2: 156.9 DB

AZIMUTH	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115
OFF-AXIS	98.5	95.2	92.0	88.7	85.4	82.1	78.9	75.7	72.6	69.6	66.7	63.9	61.2	58.8	56.5	54.5	52.7	51.3	50.1	49.4	48.9	48.9	49.3	50.0
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	400	405	405	402	401	403	428	432	417	414	437	405	398	428	456	463	443	438	401	398	398	399	399	399
MODE 2																								
0.0 DEG	368	368	369	369	369	369	369	370	370	370	370	370	370	370	371	371	371	371	371	371	371	371	371	371

AZIMUTH	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235
OFF-AXIS	51.0	52.4	54.1	56.1	58.3	60.8	63.4	66.1	69.0	72.0	75.1	78.3	81.5	84.8	88.0	91.3	94.6	97.9	101.1	104.3	107.4	110.4	113.3	116.1
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	400	399	399	400	400	418	475	653	700	765	783	853	858	858	858	858	858	719	483	408	403	403	433	398
MODE 2																								
0.0 DEG	371	371	371	371	371	370	370	370	370	370	370	369	369	369	369	369	369	368	368	368	368	368	367	367

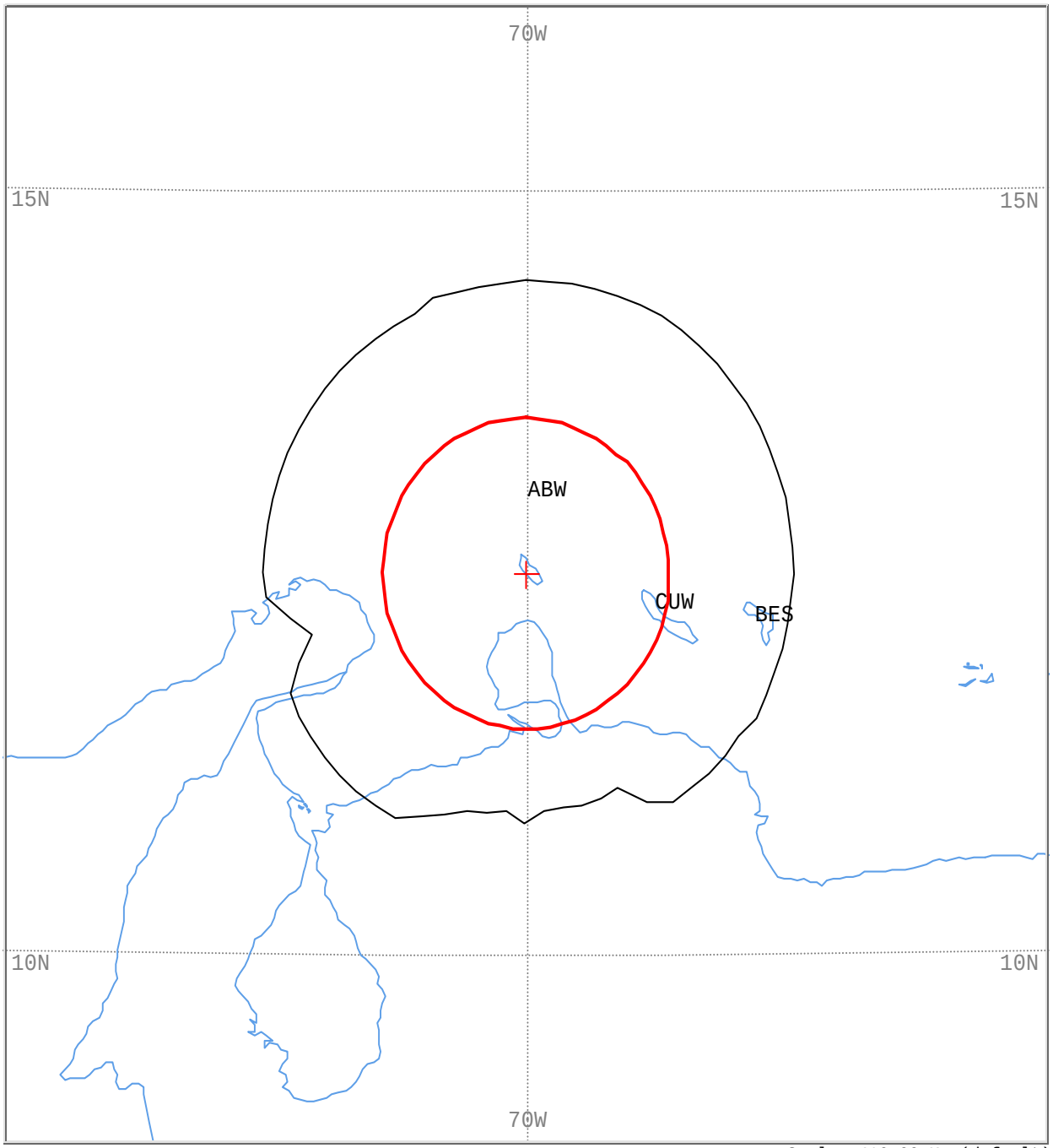
AZIMUTH	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355
OFF-AXIS	118.8	121.2	123.5	125.5	127.3	128.7	129.9	130.6	131.1	131.1	130.7	130.0	129.0	127.6	125.9	123.9	121.7	119.2	116.6	113.9	111.0	108.0	104.9	101.7
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	398	398	398	398	398	398	398	399	436	499	566	573	586	554	539	525	456	443	398	398	398	400	399	399
MODE 2																								
0.0 DEG	367	367	367	367	367	367	367	367	367	367	367	367	367	367	367	367	367	367	367	367	368	368	368	368

PROBABLY AFFECTED COUNTRIES: CLM CTR EQA NCG

Diagram 1: 2.1_TABLE7. TRANSMITTING GSO ES in FIXED-SATELLITE SERVICE W.R.T. RECEIVING TERRESTRIAL STATIONS. TS: fixed, mobile

Notice ID: 13
Administration/Geographical area: ABW/HOL
Satellite orbital position: -45.00
Frequency band: 6063.20-6066.30 MHz

Earth station name: MEVAIII-ORANJESTAD
Earth station position: 070W005512N3005
Satellite name: USASAT-60I



Scale: 416.00 Km (default)

ES position
Main Mode1
Main Mode2

ANALYSIS DATE AND TIME: 2014-11-27 12:15:31

VERSION: 2.1.0.1Appendix 7 Pack/Plt-2.0.0.4/Frm-2.0.0.1/Clc-2.0.0.0/Prp-1.2.0.0/SNS-2.0.0.0/AP7F-2.0.0.0/Ref-2.0.0.1

Diagram 1: 2.1_TABLE7. TRANSMITTING GSO ES in FIXED-SATELLITE SERVICE W.R.T. RECEIVING TERRESTRIAL STATIONS. TS: fixed, mobile

NOTICE ID: 13 EARTH STATION NAME: MEVAIII-ORANJESTAD EARTH STATION POSITION: 070W005512N3005 PHASE: D
ADM/GEO_AREA: ABW/HOL RAIN CLIMATICAL ZONE: N
SATELLITE NAME: USASAT-60I SATELLITE ORBITAL POSITION: -45.00 DEG
ANTENNA AZIMUTH: 114.89 DEG ANTENNA ELEVATION: 57.57 DEG
FREQUENCY BAND: 6063.20-6066.30 MHZ ASSIGNED FREQUENCY: 6064.75 MHZ PERCENTAGE OF TIME: 0.0050 %
MAXIMUM ANTENNA GAIN: 49.0 DBI MAXIMUM POWER DENSITY: -53.0 DBW/HZ NOISE TEMPERATURE: - K
ANTENNA PATTERN: APEREC015V01
2.1_TABLE7 Model: PLM_DUCTING

TRANSMISSION LOSS MODE 1: 160.0 DB (DOES NOT INCLUDE HOR. CORR. AND ANT. GAIN)
TRANSMISSION LOSS MODE 2: 114.0 DB

AZIMUTH	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115
OFF-AXIS	103.0	100.5	97.9	95.3	92.6	89.9	87.3	84.6	82.0	79.4	76.8	74.4	72.0	69.8	67.7	65.7	63.9	62.3	60.9	59.7	58.8	58.1	57.7	57.6
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	213	213	214	214	215	215	216	216	216	215	215	215	215	214	214	214	213	213	213	212	212	212	211	211
MODE 2																								
0.0 DEG	113	113	113	113	113	113	113	113	113	114	114	114	114	114	114	114	114	114	114	114	115	115	115	115

AZIMUTH	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235
OFF-AXIS	57.7	58.1	58.8	59.8	60.9	62.4	64.0	65.8	67.8	69.9	72.1	74.5	77.0	79.5	82.1	84.7	87.4	90.1	92.7	95.4	98.0	100.6	103.2	105.6
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	212	207	207	206	205	204	193	173	175	175	173	174	182	174	177	180	187	196	206	207	208	208	208	208
MODE 2																								
0.0 DEG	115	115	115	114	114	114	114	114	114	114	114	114	114	114	113	113	113	113	113	113	113	113	113	113

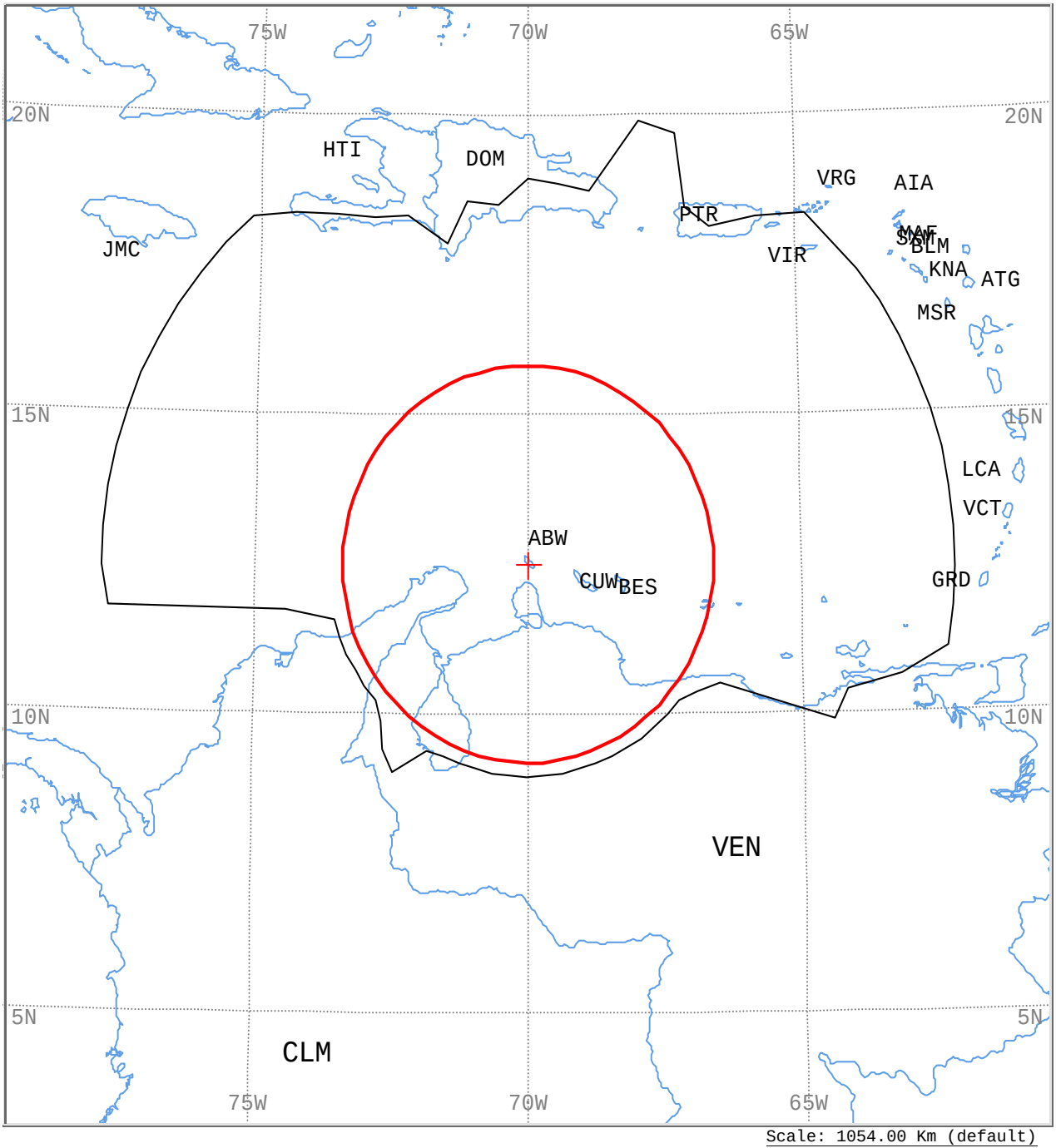
AZIMUTH	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355
OFF-AXIS	108.0	110.2	112.3	114.3	116.1	117.7	119.1	120.3	121.2	121.9	122.3	122.4	122.3	121.9	121.2	120.2	119.1	117.6	116.0	114.2	112.2	110.1	107.9	105.5
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	208	206	191	175	189	206	208	208	208	208	208	208	208	208	208	208	208	208	208	208	213	212	212	212
MODE 2																								
0.0 DEG	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113

PROBABLY AFFECTED COUNTRIES: BES CLM CUW VEN

Diagram 2: 2.1_TABLE8. RECEIVING GSO ES in FIXED-SATELLITE SERVICE W.R.T. TRANSMITTING TERRESTRIAL STATIONS. TS: fixed, mobile

Notice ID: 13
Administration/Geographical area: ABW/HOL
Satellite orbital position: -45.00
Frequency band: 3838.20-3841.30 MHz

Earth station name: MEVAIII-ORANJESTAD
Earth station position: 070W005512N3005
Satellite name: USASAT-60I



Scale: 1054.00 Km (default)

ES position
Main Mode1
Main Mode2

Diagram 2: 2.1_TABLE8. RECEIVING GSO ES in FIXED-SATELLITE SERVICE W.R.T. TRANSMITTING TERRESTRIAL STATIONS. TS: fixed, mobile

NOTICE ID: 13 EARTH STATION NAME: MEVAIII-ORANJESTAD EARTH STATION POSITION: 070W005512N3005 PHASE: D
ADM/GEO_AREA: ABW/HOL RAIN CLIMATICAL ZONE: N
SATELLITE NAME: USASAT-60I SATELLITE ORBITAL POSITION: -45.00 DEG
ANTENNA AZIMUTH: 114.89 DEG ANTENNA ELEVATION: 57.57 DEG
FREQUENCY BAND: 3838.20-3841.30 MHZ ASSIGNED FREQUENCY: 3839.75 MHZ PERCENTAGE OF TIME: 0.0017 %
MAXIMUM ANTENNA GAIN: 42.1 DBI MAXIMUM POWER DENSITY: - DBW/HZ NOISE TEMPERATURE: 400.0 K
ANTENNA PATTERN: APEREC015V01
2.1_TABLE8 Model: PLM_DUCTING

TRANSMISSION LOSS MODE 1: 198.9 DB (DOES NOT INCLUDE HOR. CORR. AND ANT. GAIN)
TRANSMISSION LOSS MODE 2: 156.9 DB

AZIMUTH	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115
OFF-AXIS	103.0	100.5	97.9	95.3	92.6	89.9	87.3	84.6	82.0	79.4	76.8	74.4	72.0	69.8	67.7	65.7	63.9	62.3	60.9	59.7	58.8	58.1	57.7	57.6
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	717	710	703	851	853	734	724	789	854	853	853	853	853	851	851	851	851	851	850	849	849	771	677	675
MODE 2																								
0.0 DEG	368	368	368	369	369	369	369	369	369	369	369	370	370	370	370	370	370	370	370	370	370	370	370	370

AZIMUTH	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235
OFF-AXIS	57.7	58.1	58.8	59.8	60.9	62.4	64.0	65.8	67.8	69.9	72.1	74.5	77.0	79.5	82.1	84.7	87.4	90.1	92.7	95.4	98.0	100.6	103.2	105.6
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	443	411	395	395	395	395	395	395	395	395	395	395	395	395	395	395	395	395	402	470	450	411	395	395
MODE 2																								
0.0 DEG	370	370	370	370	370	370	370	370	370	370	370	370	369	369	369	369	369	369	369	368	368	368	368	368

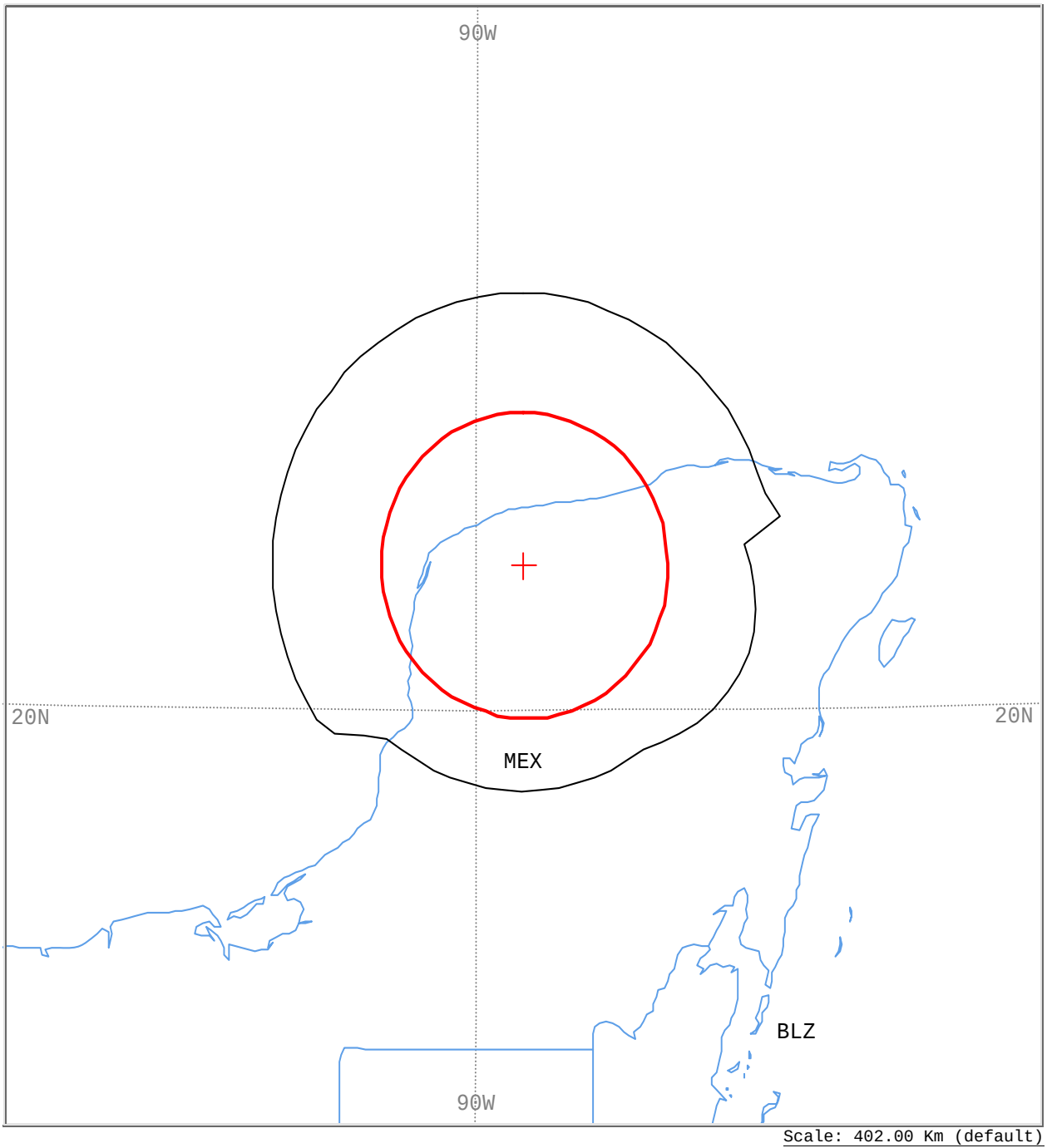
AZIMUTH	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355
OFF-AXIS	108.0	110.2	112.3	114.3	116.1	117.7	119.1	120.3	121.2	121.9	122.3	122.4	122.3	121.9	121.2	120.2	119.1	117.6	116.0	114.2	112.2	110.1	107.9	105.5
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	395	396	398	396	487	838	846	846	846	846	846	846	846	846	846	846	846	799	752	710	689	615	684	671
MODE 2																								
0.0 DEG	368	368	368	368	367	367	367	367	367	367	367	367	367	367	367	367	367	367	367	368	368	368	368	368

PROBABLY AFFECTED COUNTRIES: BES CLM CUW DOM HTI PTR VEN VIR

Diagram 1: 2.1_TABLE7. TRANSMITTING GSO ES in FIXED-SATELLITE SERVICE W.R.T. RECEIVING TERRESTRIAL STATIONS. TS: fixed, mobile

Notice ID: 12
Administration/Geographical area: MEX/MEX
Satellite orbital position: -45.00
Frequency band: 6063.20-6066.30 MHz

Earth station name: MEVAIII-MERIDA
Earth station position: 089W392820N5613
Satellite name: USASAT-60I



Scale: 402.00 Km (default)

ES position
Main Mode1
Main Mode2

ANALYSIS DATE AND TIME: 2014-11-27 12:14:06

VERSION: 2.1.0.1Appendix 7 Pack/Plt-2.0.0.4/Frm-2.0.0.1/Clc-2.0.0.0/Prp-1.2.0.0/SNS-2.0.0.0/AP7F-2.0.0.0/Ref-2.0.0.1

Diagram 1: 2.1_TABLE7. TRANSMITTING GSO ES in FIXED-SATELLITE SERVICE W.R.T. RECEIVING TERRESTRIAL STATIONS. TS: fixed, mobile

NOTICE ID: 12 EARTH STATION NAME: MEVAIII-MERIDA EARTH STATION POSITION: 089W392820N5613 PHASE: D
ADM/GEO_AREA: MEX/MEX RAIN CLIMATICAL ZONE: N
SATELLITE NAME: USASAT-60I SATELLITE ORBITAL POSITION: -45.00 DEG
ANTENNA AZIMUTH: 109.88 DEG ANTENNA ELEVATION: 34.48 DEG
FREQUENCY BAND: 6063.20-6066.30 MHZ ASSIGNED FREQUENCY: 6064.75 MHZ PERCENTAGE OF TIME: 0.0050 %
MAXIMUM ANTENNA GAIN: 49.0 DBI MAXIMUM POWER DENSITY: -53.9 DBW/HZ NOISE TEMPERATURE: - K
ANTENNA PATTERN: APEREC015V01
2.1_TABLE7 Model: PLM_DUCTING

TRANSMISSION LOSS MODE 1: 159.1 DB (DOES NOT INCLUDE HOR. CORR. AND ANT. GAIN)
TRANSMISSION LOSS MODE 2: 113.1 DB

AZIMUTH	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115
OFF-AXIS	106.3	102.2	98.1	94.0	89.9	85.8	81.7	77.6	73.5	69.5	65.6	61.7	57.9	54.3	50.8	47.5	44.4	41.6	39.2	37.2	35.7	34.8	34.5	34.8
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-9.9	-9.2	-8.5	-7.8	-7.3	-6.8	-6.5	-6.4	-6.5
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	194	194	194	194	193	193	193	193	193	193	193	193	193	193	193	194	202	172	176	180	183	185	186	185
MODE 2																								
0.0 DEG	109	109	109	109	109	109	110	110	110	110	111	111	111	112	112	112	112	112	112	113	113	113	113	113

AZIMUTH	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235
OFF-AXIS	35.8	37.3	39.3	41.7	44.5	47.6	50.9	54.4	58.1	61.9	65.8	69.7	73.7	77.8	81.9	86.0	90.1	94.2	98.3	102.4	106.5	110.5	114.4	118.3
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-6.8	-7.3	-7.9	-8.5	-9.2	-9.9	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	183	180	176	172	167	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	163	173	189	193
MODE 2																								
0.0 DEG	113	113	112	112	112	112	112	112	111	111	111	110	110	110	110	109	109	109	109	109	109	109	109	109

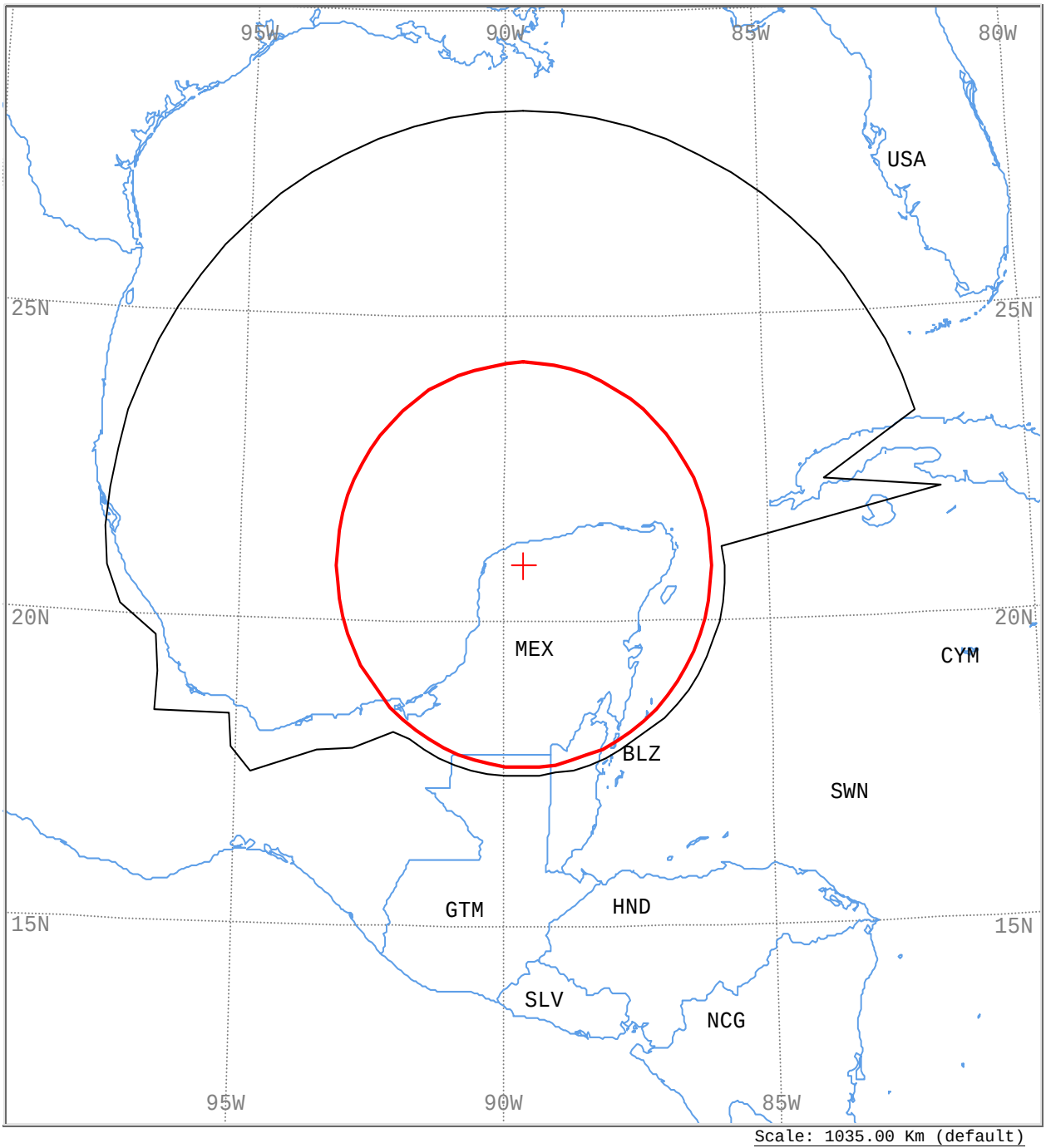
AZIMUTH	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355
OFF-AXIS	122.1	125.7	129.2	132.5	135.6	138.4	140.8	142.8	144.3	145.2	145.5	145.2	144.2	142.7	140.7	138.3	135.5	132.4	129.1	125.6	121.9	118.1	114.2	110.3
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	193	193	193	193	193	193	193	193	193	193	193	193	193	193	193	194	194	194	194	194	194	194	194	194
MODE 2																								
0.0 DEG	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109

PROBABLY AFFECTED COUNTRIES:

Diagram 2: 2.1_TABLE8. RECEIVING GSO ES in FIXED-SATELLITE SERVICE W.R.T. TRANSMITTING TERRESTRIAL STATIONS. TS: fixed, mobile

Notice ID: 12
Administration/Geographical area: MEX/MEX
Satellite orbital position: -45.00
Frequency band: 3838.20-3841.30 MHz

Earth station name: MEVAIII-MERIDA
Earth station position: 089W392820N5613
Satellite name: USASAT-60I



Scale: 1035.00 Km (default)

ES position
Main Mode1
Main Mode2

Diagram 2: 2.1_TABLE8. RECEIVING GSO ES in FIXED-SATELLITE SERVICE W.R.T. TRANSMITTING TERRESTRIAL STATIONS. TS: fixed, mobile

NOTICE ID: 12 EARTH STATION NAME: MEVAIII-MERIDA EARTH STATION POSITION: 089W392820N5613 PHASE: D
ADM/GEO_AREA: MEX/MEX RAIN CLIMATICAL ZONE: N
SATELLITE NAME: USASAT-60I SATELLITE ORBITAL POSITION: -45.00 DEG
ANTENNA AZIMUTH: 109.88 DEG ANTENNA ELEVATION: 34.48 DEG
FREQUENCY BAND: 3838.20-3841.30 MHZ ASSIGNED FREQUENCY: 3839.75 MHZ PERCENTAGE OF TIME: 0.0017 %
MAXIMUM ANTENNA GAIN: 42.1 DBI MAXIMUM POWER DENSITY: - DBW/HZ NOISE TEMPERATURE: 400.0 K
ANTENNA PATTERN: APEREC015V01
2.1_TABLE8 Model: PLM_DUCTING

TRANSMISSION LOSS MODE 1: 198.9 DB (DOES NOT INCLUDE HOR. CORR. AND ANT. GAIN)
TRANSMISSION LOSS MODE 2: 156.9 DB

AZIMUTH	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115
OFF-AXIS	106.3	102.2	98.1	94.0	89.9	85.8	81.7	77.6	73.5	69.5	65.6	61.7	57.9	54.3	50.8	47.5	44.4	41.6	39.2	37.2	35.7	34.8	34.5	34.8
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.8	-6.0	-5.3	-4.7	-4.1	-3.7	-3.4	-3.3	-3.4
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	827	827	826	826	825	825	825	825	825	824	824	824	824	824	824	613	835	394	397	399	400	401	401	401
MODE 2																								
0.0 DEG	368	368	368	368	369	369	369	370	370	370	371	371	371	371	372	372	372	372	372	372	372	372	372	372

AZIMUTH	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235
OFF-AXIS	35.8	37.3	39.3	41.7	44.5	47.6	50.9	54.4	58.1	61.9	65.8	69.7	73.7	77.8	81.9	86.0	90.1	94.2	98.3	102.4	106.5	110.5	114.4	118.3
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-3.7	-4.1	-4.7	-5.4	-6.1	-6.8	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	400	399	397	394	392	389	389	389	389	389	386	386	387	387	387	388	389	389	389	390	397	471	527	654
MODE 2																								
0.0 DEG	372	372	372	372	372	372	372	371	371	371	371	370	370	370	369	369	369	368	368	368	368	367	367	367

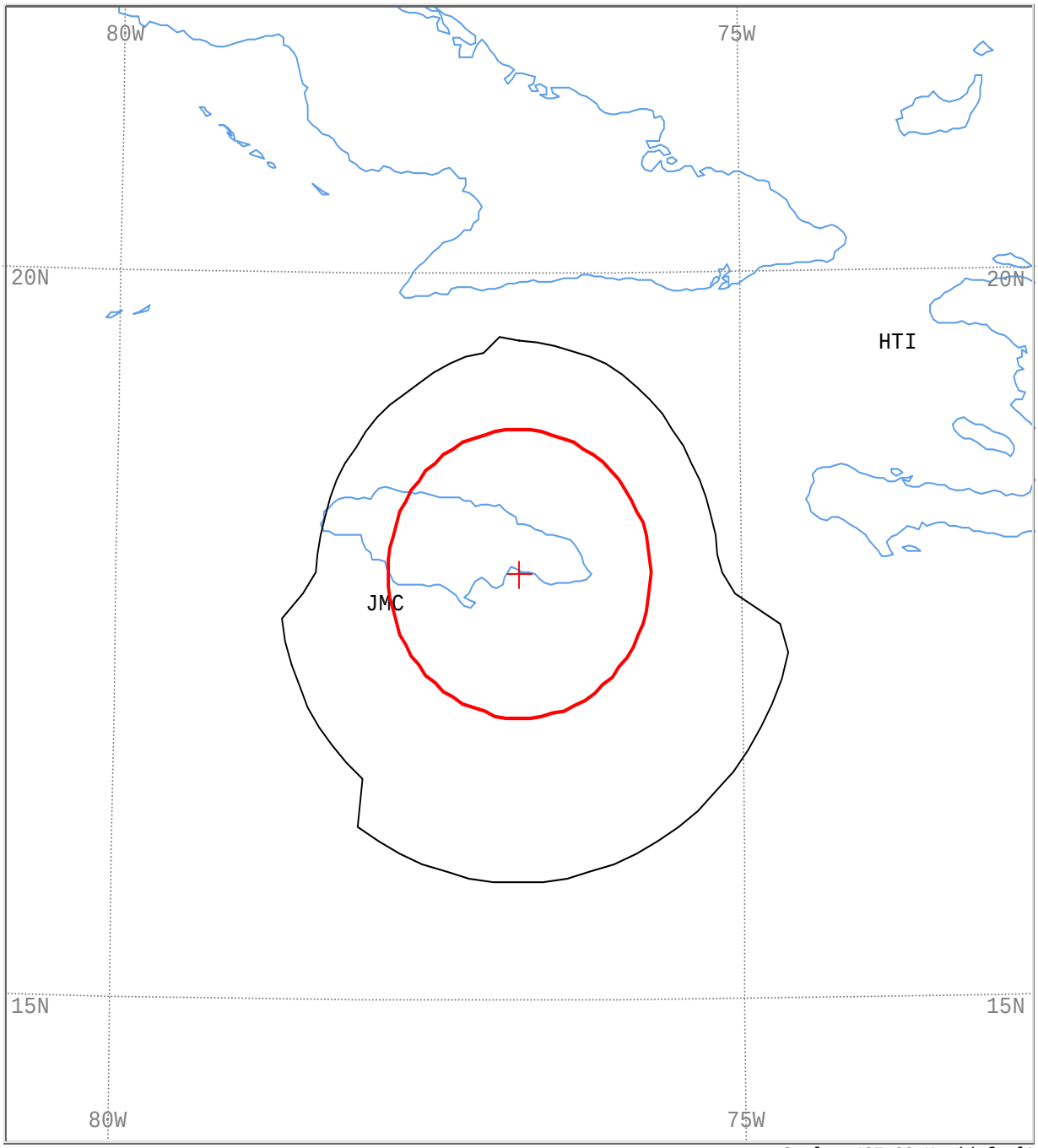
AZIMUTH	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355
OFF-AXIS	122.1	125.7	129.2	132.5	135.6	138.4	140.8	142.8	144.3	145.2	145.5	145.2	144.2	142.7	140.7	138.3	135.5	132.4	129.1	125.6	121.9	118.1	114.2	110.3
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	663	637	771	744	732	794	819	824	824	824	825	825	825	825	825	826	826	826	826	826	826	827	827	827
MODE 2																								
0.0 DEG	366	366	366	366	366	365	365	365	365	365	365	365	365	365	365	365	366	366	366	366	366	367	367	367

PROBABLY AFFECTED COUNTRIES: BLZ CUB GTM

Diagram 1: 2.1_TABLE7. TRANSMITTING GSO ES in FIXED-SATELLITE SERVICE W.R.T. RECEIVING TERRESTRIAL STATIONS. TS: fixed, mobile

Notice ID: 11
Administration/Geographical area: JMC/JMC
Satellite orbital position: -45.00
Frequency band: 6063.20-6066.30 MHz

Earth station name: MEVAIII-KINGSTON
Earth station position: 076W471517N5608
Satellite name: USASAT-60I



Scale: 437.00 Km (default)

ES position
Main Mode1
Main Mode2

ANALYSIS DATE AND TIME: 2014-11-27 12:13:31

VERSION: 2.1.0.1Appendix 7 Pack/Plt-2.0.0.4/Frm-2.0.0.1/Clc-2.0.0.0/Prp-1.2.0.0/SNS-2.0.0.0/AP7F-2.0.0.0/Ref-2.0.0.1

Diagram 1: 2.1_TABLE7. TRANSMITTING GSO ES in FIXED-SATELLITE SERVICE W.R.T. RECEIVING TERRESTRIAL STATIONS. TS: fixed, mobile

NOTICE ID: 11 EARTH STATION NAME: MEVAIII-KINGSTON EARTH STATION POSITION: 076W471517N5608 PHASE: D
ADM/GEO_AREA: JMC/JMC RAIN CLIMATICAL ZONE: N
SATELLITE NAME: USASAT-60I SATELLITE ORBITAL POSITION: -45.00 DEG
ANTENNA AZIMUTH: 116.42 DEG ANTENNA ELEVATION: 48.19 DEG
FREQUENCY BAND: 6063.20-6066.30 MHZ ASSIGNED FREQUENCY: 6064.75 MHZ PERCENTAGE OF TIME: 0.0050 %
MAXIMUM ANTENNA GAIN: 49.0 DBI MAXIMUM POWER DENSITY: -53.1 DBW/HZ NOISE TEMPERATURE: - K
ANTENNA PATTERN: APEREC015V01
2.1_TABLE7 Model: PLM_DUCTING

TRANSMISSION LOSS MODE 1: 159.9 DB (DOES NOT INCLUDE HOR. CORR. AND ANT. GAIN)
TRANSMISSION LOSS MODE 2: 113.9 DB

AZIMUTH	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115
OFF-AXIS	107.3	104.1	100.9	97.6	94.3	90.9	87.6	84.3	81.0	77.7	74.5	71.4	68.4	65.4	62.6	60.0	57.6	55.3	53.3	51.6	50.2	49.2	48.5	48.2
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	178	177	176	175	176	176	175	174	173	172	170	170	169	169	169	169	169	169	173	184	225	236	237	237
MODE 2																								
0.0 DEG	110	110	110	110	110	110	110	110	111	111	111	111	111	111	112	112	112	112	112	112	112	112	112	112

AZIMUTH	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235
OFF-AXIS	48.3	48.8	49.6	50.8	52.3	54.2	56.3	58.6	61.1	63.8	66.7	69.7	72.7	75.9	79.1	82.4	85.7	89.1	92.4	95.7	99.0	102.3	105.5	108.6
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	237	237	237	237	237	237	237	237	237	237	237	237	237	237	237	237	237	237	237	237	205	205	205	205
MODE 2																								
0.0 DEG	112	112	112	112	112	112	112	112	112	111	111	111	111	111	111	110	110	110	110	110	110	110	110	110

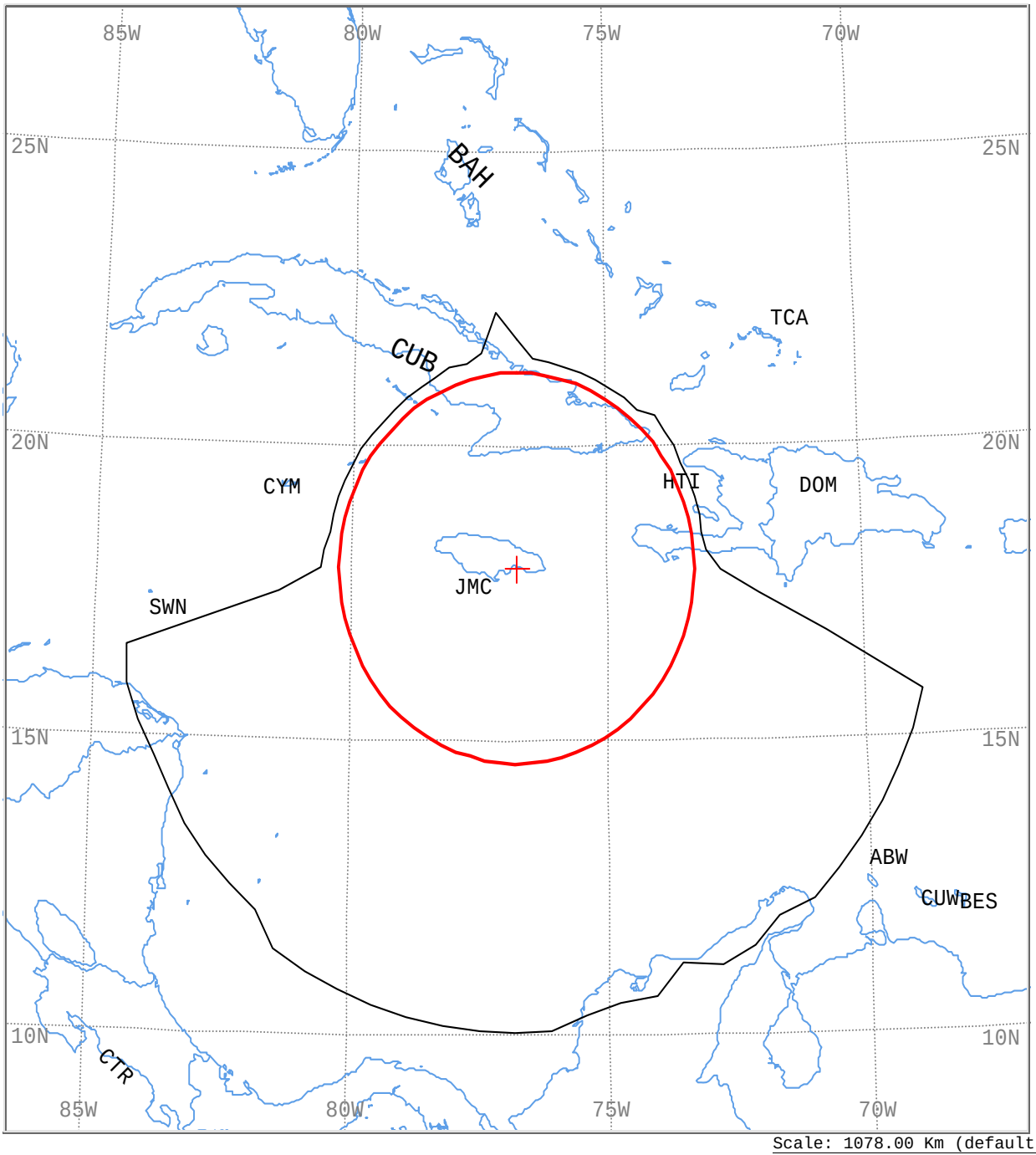
AZIMUTH	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355
OFF-AXIS	111.6	114.6	117.4	120.0	122.4	124.7	126.7	128.4	129.8	130.8	131.5	131.8	131.7	131.2	130.4	129.2	127.7	125.8	123.7	121.4	118.9	116.2	113.3	110.3
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	205	204	204	204	203	183	171	170	169	169	169	169	169	168	168	168	168	168	168	169	170	172	171	181
MODE 2																								
0.0 DEG	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110

PROBABLY AFFECTED COUNTRIES:

Diagram 2: 2.1_TABLE8. RECEIVING GSO ES in FIXED-SATELLITE SERVICE W.R.T. TRANSMITTING TERRESTRIAL STATIONS. TS: fixed, mobile

Notice ID: 11
Administration/Geographical area: JMC/JMC
Satellite orbital position: -45.00
Frequency band: 3838.20-3841.30 MHz

Earth station name: MEVAIII-KINGSTON
Earth station position: 076W471517N5608
Satellite name: USASAT-60I



Scale: 1078.00 Km (default)

ES position
Main Mode1
Main Mode2

Diagram 2: 2.1_TABLE8. RECEIVING GSO ES in FIXED-SATELLITE SERVICE W.R.T. TRANSMITTING TERRESTRIAL STATIONS. TS: fixed, mobile

NOTICE ID: 11 EARTH STATION NAME: MEVAIII-KINGSTON EARTH STATION POSITION: 076W471517N5608 PHASE: D
ADM/GEO_AREA: JMC/JMC RAIN CLIMATICAL ZONE: N
SATELLITE NAME: USASAT-60I SATELLITE ORBITAL POSITION: -45.00 DEG
ANTENNA AZIMUTH: 116.42 DEG ANTENNA ELEVATION: 48.19 DEG
FREQUENCY BAND: 3838.20-3841.30 MHZ ASSIGNED FREQUENCY: 3839.75 MHZ PERCENTAGE OF TIME: 0.0017 %
MAXIMUM ANTENNA GAIN: 42.1 DBI MAXIMUM POWER DENSITY: - DBW/HZ NOISE TEMPERATURE: 400.0 K
ANTENNA PATTERN: APEREC015V01
2.1_TABLE8 Model: PLM_DUCTING

TRANSMISSION LOSS MODE 1: 198.9 DB (DOES NOT INCLUDE HOR. CORR. AND ANT. GAIN)
TRANSMISSION LOSS MODE 2: 156.9 DB

AZIMUTH	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115
OFF-AXIS	107.3	104.1	100.9	97.6	94.3	90.9	87.6	84.3	81.0	77.7	74.5	71.4	68.4	65.4	62.6	60.0	57.6	55.3	53.3	51.6	50.2	49.2	48.5	48.2
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	430	396	393	392	391	391	391	391	391	408	403	401	395	396	394	394	391	397	425	505	656	873	878	878
MODE 2																								
0.0 DEG	368	368	368	368	369	369	369	369	369	369	370	370	370	370	370	370	371	371	371	371	371	371	371	371

AZIMUTH	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235
OFF-AXIS	48.3	48.8	49.6	50.8	52.3	54.2	56.3	58.6	61.1	63.8	66.7	69.7	72.7	75.9	79.1	82.4	85.7	89.1	92.4	95.7	99.0	102.3	105.5	108.6
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	878	878	878	878	853	867	865	822	859	849	859	878	878	878	878	878	878	878	878	878	840	840	840	840
MODE 2																								
0.0 DEG	371	371	371	371	371	371	371	371	370	370	370	370	370	370	369	369	369	369	369	368	368	368	368	368

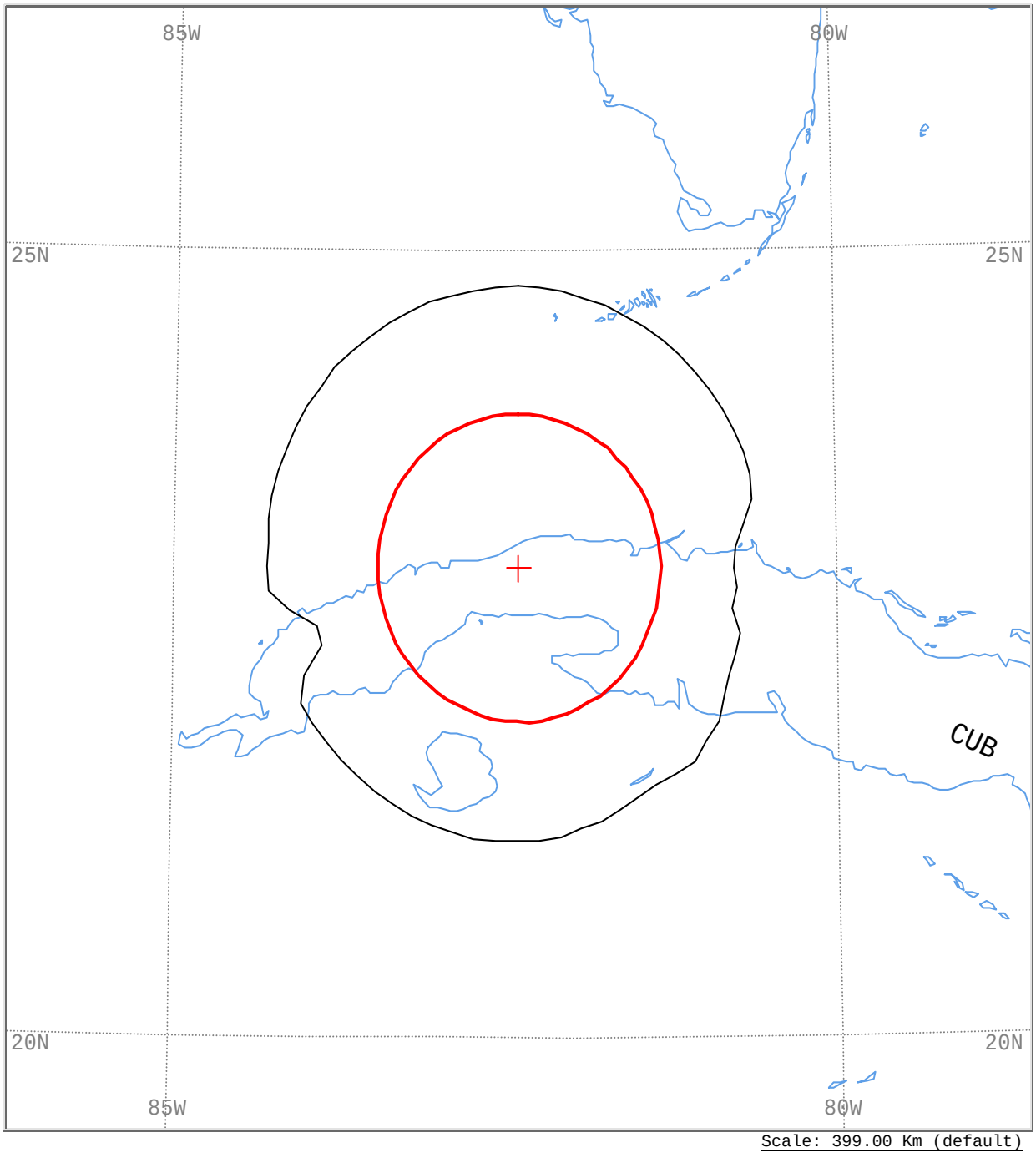
AZIMUTH	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355
OFF-AXIS	111.6	114.6	117.4	120.0	122.4	124.7	126.7	128.4	129.8	130.8	131.5	131.8	131.7	131.2	130.4	129.2	127.7	125.8	123.7	121.4	118.9	116.2	113.3	110.3
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	832	829	836	835	819	493	405	399	391	391	391	391	391	391	391	391	391	392	393	395	401	399	410	483
MODE 2																								
0.0 DEG	368	367	367	367	367	367	367	367	367	367	367	367	367	367	367	367	367	367	367	367	367	367	367	368

PROBABLY AFFECTED COUNTRIES: CLM CUB CYM HND HTI NCG USA

Diagram 1: 2.1_TABLE7. TRANSMITTING GSO ES in FIXED-SATELLITE SERVICE W.R.T. RECEIVING TERRESTRIAL STATIONS. TS: fixed, mobile

Notice ID: 9
Administration/Geographical area: CUB/CUB
Satellite orbital position: -45.00
Frequency band: 6063.20-6066.30 MHz

Earth station name: MEVAIII-HAVANA
Earth station position: 082W243322N5921
Satellite name: USASAT-60I



Scale: 399.00 Km (default)

ES position
Main Mode1
Main Mode2

ANALYSIS DATE AND TIME: 2014-11-27 12:11:54

VERSION: 2.1.0.1Appendix 7 Pack/Plt-2.0.0.4/Frm-2.0.0.1/Clc-2.0.0.0/Prp-1.2.0.0/SNS-2.0.0.0/AP7F-2.0.0.0/Ref-2.0.0.1

Diagram 1: 2.1_TABLE7. TRANSMITTING GSO ES in FIXED-SATELLITE SERVICE W.R.T. RECEIVING TERRESTRIAL STATIONS. TS: fixed, mobile

NOTICE ID: 9 EARTH STATION NAME: MEVAIII-HAVANA EARTH STATION POSITION: 082W243322N5921 PHASE: D
ADM/GEO_AREA: CUB/CUB RAIN CLIMATICAL ZONE: N
SATELLITE NAME: USASAT-60I SATELLITE ORBITAL POSITION: -45.00 DEG
ANTENNA AZIMUTH: 117.05 DEG ANTENNA ELEVATION: 40.38 DEG
FREQUENCY BAND: 6063.20-6066.30 MHZ ASSIGNED FREQUENCY: 6064.75 MHZ PERCENTAGE OF TIME: 0.0050 %
MAXIMUM ANTENNA GAIN: 49.0 DBI MAXIMUM POWER DENSITY: -53.8 DBW/HZ NOISE TEMPERATURE: - K
ANTENNA PATTERN: APEREC015V01
2.1_TABLE7 Model: PLM_DUCTING

TRANSMISSION LOSS MODE 1: 159.2 DB (DOES NOT INCLUDE HOR. CORR. AND ANT. GAIN)
TRANSMISSION LOSS MODE 2: 113.2 DB

AZIMUTH	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115
OFF-AXIS	110.3	106.6	102.9	99.2	95.4	91.6	87.8	84.0	80.2	76.4	72.7	69.1	65.5	62.1	58.7	55.6	52.6	49.8	47.3	45.1	43.3	41.8	40.9	40.4
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-9.9	-9.4	-8.9	-8.5	-8.3	-8.2
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	198	198	198	197	197	196	196	196	195	195	194	194	193	193	191	187	177	169	168	170	169	178	179	181
MODE 2																								
0.0 DEG	108	108	108	108	108	108	108	108	109	109	109	109	110	110	110	110	110	110	111	111	111	111	111	111

AZIMUTH	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235
OFF-AXIS	40.5	41.0	42.1	43.6	45.5	47.7	50.3	53.1	56.1	59.3	62.7	66.2	69.7	73.4	77.1	80.8	84.6	88.4	92.2	96.0	99.8	103.6	107.3	110.9
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-8.2	-8.3	-8.6	-9.0	-9.4	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	184	190	191	194	191	187	188	189	191	192	194	194	194	194	195	194	194	194	194	193	193	193	193	193
MODE 2																								
0.0 DEG	111	111	111	111	111	111	110	110	110	110	110	110	109	109	109	109	108	108	108	108	108	108	108	108

AZIMUTH	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355
OFF-AXIS	114.5	117.9	121.3	124.4	127.4	130.2	132.7	134.9	136.7	138.2	139.1	139.6	139.5	139.0	137.9	136.4	134.5	132.3	129.7	126.9	123.9	120.7	117.3	113.8
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	193	182	161	161	179	193	193	193	195	196	197	197	198	198	198	199	199	199	199	199	199	198	198	198
MODE 2																								
0.0 DEG	108	108	108	108	108	108	108	108	108	108	108	108	108	108	108	108	108	108	108	108	108	108	108	108

PROBABLY AFFECTED COUNTRIES: USA

Diagram 2: 2.1_TABLE8. RECEIVING GSO ES in FIXED-SATELLITE SERVICE W.R.T. TRANSMITTING TERRESTRIAL STATIONS. TS: fixed, mobile

Notice ID: 9
Administration/Geographical area: CUB/CUB
Satellite orbital position: -45.00
Frequency band: 3838.20-3841.30 MHz

Earth station name: MEVAIII-HAVANA
Earth station position: 082W243322N5921
Satellite name: USASAT-60I

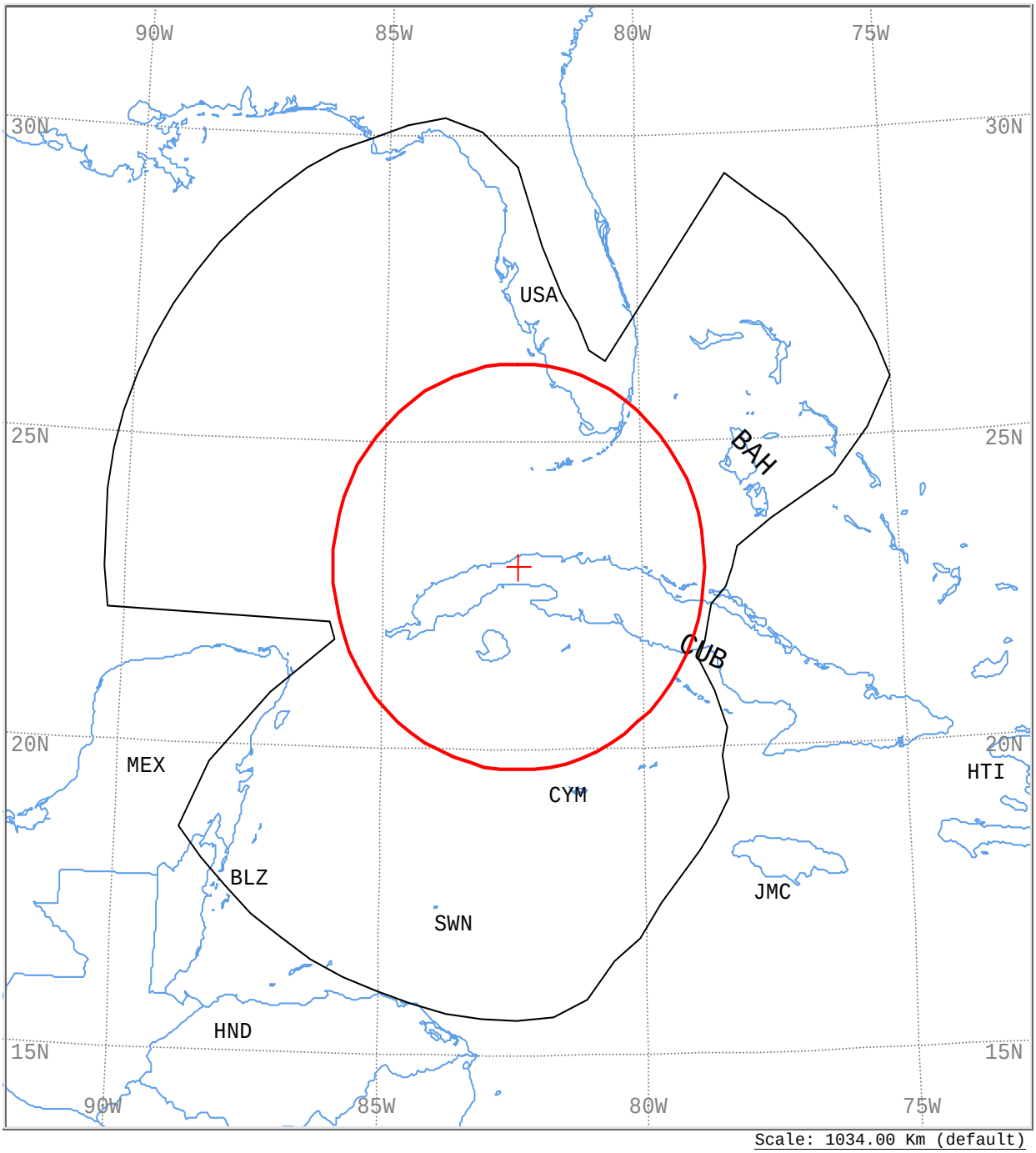


Diagram 2: 2.1_TABLE8. RECEIVING GSO ES in FIXED-SATELLITE SERVICE W.R.T. TRANSMITTING TERRESTRIAL STATIONS. TS: fixed, mobile

NOTICE ID: 9 EARTH STATION NAME: MEVAIII-HAVANA EARTH STATION POSITION: 082W243322N5921 PHASE: D
ADM/GEO_AREA: CUB/CUB RAIN CLIMATICAL ZONE: N
SATELLITE NAME: USASAT-60I SATELLITE ORBITAL POSITION: -45.00 DEG
ANTENNA AZIMUTH: 117.05 DEG ANTENNA ELEVATION: 40.38 DEG
FREQUENCY BAND: 3838.20-3841.30 MHZ ASSIGNED FREQUENCY: 3839.75 MHZ PERCENTAGE OF TIME: 0.0017 %
MAXIMUM ANTENNA GAIN: 42.1 DBI MAXIMUM POWER DENSITY: - DBW/HZ NOISE TEMPERATURE: 400.0 K
ANTENNA PATTERN: APEREC015V01
2.1_TABLE8 Model: PLM_DUCTING

TRANSMISSION LOSS MODE 1: 198.9 DB (DOES NOT INCLUDE HOR. CORR. AND ANT. GAIN)
TRANSMISSION LOSS MODE 2: 156.9 DB

AZIMUTH	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115
OFF-AXIS	110.3	106.6	102.9	99.2	95.4	91.6	87.8	84.0	80.2	76.4	72.7	69.1	65.5	62.1	58.7	55.6	52.6	49.8	47.3	45.1	43.3	41.8	40.9	40.4
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.7	-6.2	-5.8	-5.4	-5.1	-5.0
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	723	582	501	458	416	410	823	822	826	826	825	824	822	817	739	649	512	438	427	416	391	393	395	398
MODE 2																								
0.0 DEG	367	368	368	368	368	369	369	369	369	370	370	370	370	371	371	371	371	371	371	372	372	372	372	372

AZIMUTH	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235
OFF-AXIS	40.5	41.0	42.1	43.6	45.5	47.7	50.3	53.1	56.1	59.3	62.7	66.2	69.7	73.4	77.1	80.8	84.6	88.4	92.2	96.0	99.8	103.6	107.3	110.9
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-5.0	-5.2	-5.5	-5.8	-6.3	-6.8	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	452	508	533	596	613	630	651	674	719	742	799	824	825	825	825	822	822	824	823	823	822	822	821	821
MODE 2																								
0.0 DEG	372	372	372	372	371	371	371	371	371	371	371	370	370	370	370	369	369	369	369	368	368	368	368	367

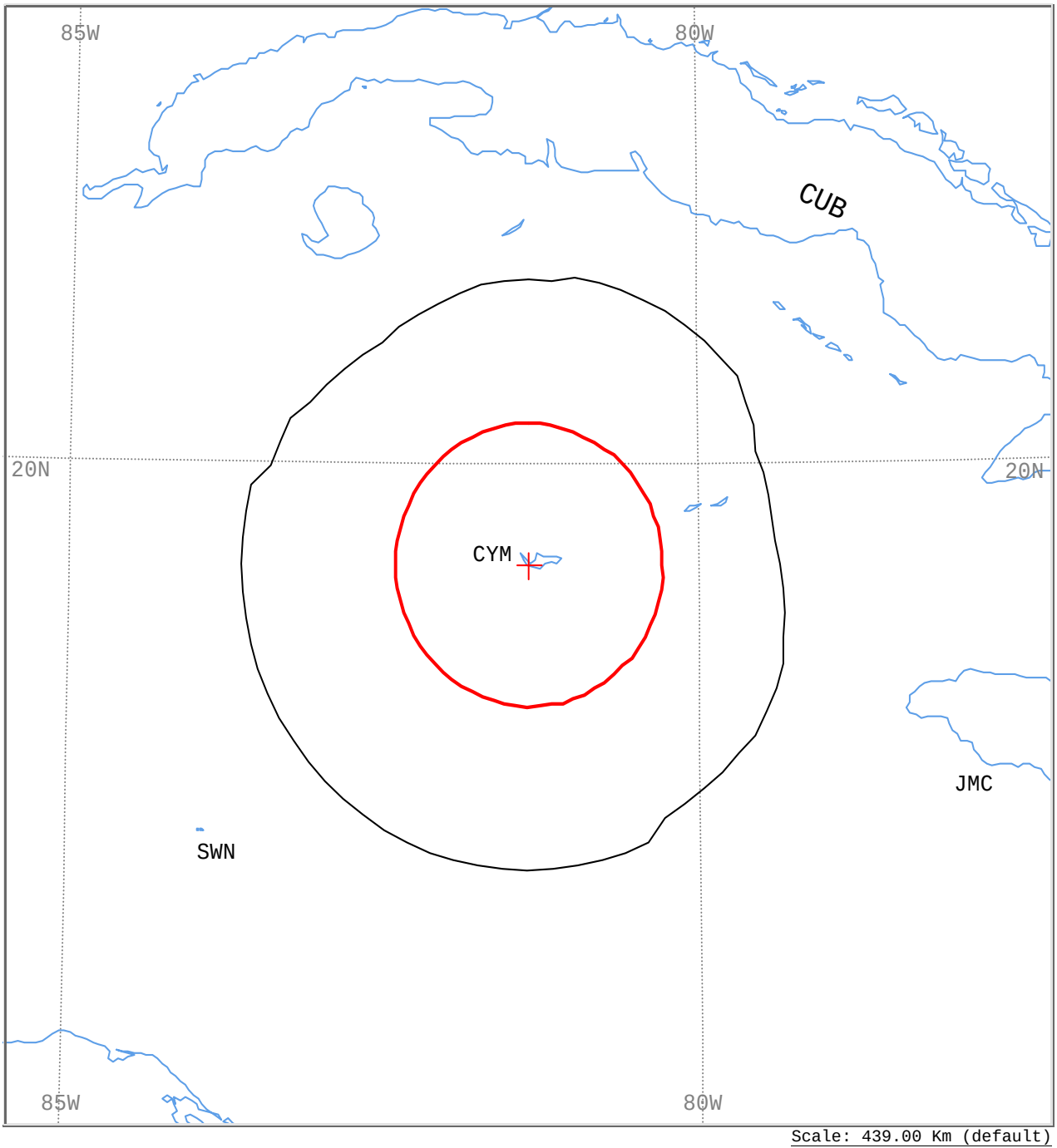
AZIMUTH	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355
OFF-AXIS	114.5	117.9	121.3	124.4	127.4	130.2	132.7	134.9	136.7	138.2	139.1	139.6	139.5	139.0	137.9	136.4	134.5	132.3	129.7	126.9	123.9	120.7	117.3	113.8
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	706	540	387	387	526	815	821	821	826	829	831	832	833	833	834	834	834	834	834	834	828	828	827	790
MODE 2																								
0.0 DEG	367	367	367	367	366	366	366	366	366	366	366	366	366	366	366	366	366	366	366	366	367	367	367	367

PROBABLY AFFECTED COUNTRIES: BAH BLZ CYM HND MEX SWN USA

Diagram 1: 2.1_TABLE7. TRANSMITTING GSO ES in FIXED-SATELLITE SERVICE W.R.T. RECEIVING TERRESTRIAL STATIONS. TS: fixed, mobile

Notice ID: 8
Administration/Geographical area: CYM/CYM
Satellite orbital position: -45.00
Frequency band: 6063.20-6066.30 MHz

Earth station name: MEVAIII-GEORGETOWN
Earth station position: 081W212819N1734
Satellite name: USASAT-60I



Scale: 439.00 Km (default)

ES position
Main Mode1
Main Mode2

ANALYSIS DATE AND TIME: 2014-11-27 12:11:17

VERSION: 2.1.0.1Appendix 7 Pack/Plt-2.0.0.4/Frm-2.0.0.1/Clc-2.0.0.0/Prp-1.2.0.0/SNS-2.0.0.0/AP7F-2.0.0.0/Ref-2.0.0.1

Diagram 1: 2.1_TABLE7. TRANSMITTING GSO ES in FIXED-SATELLITE SERVICE W.R.T. RECEIVING TERRESTRIAL STATIONS. TS: fixed, mobile

NOTICE ID: 8 EARTH STATION NAME: MEVAIII-GEORGETOWN EARTH STATION POSITION: 081W212819N1734 PHASE: D
ADM/GEO_AREA: CYM/CYM RAIN CLIMATICAL ZONE: N
SATELLITE NAME: USASAT-60I SATELLITE ORBITAL POSITION: -45.00 DEG
ANTENNA AZIMUTH: 114.17 DEG ANTENNA ELEVATION: 43.15 DEG
FREQUENCY BAND: 6063.20-6066.30 MHZ ASSIGNED FREQUENCY: 6064.75 MHZ PERCENTAGE OF TIME: 0.0050 %
MAXIMUM ANTENNA GAIN: 49.0 DBI MAXIMUM POWER DENSITY: -52.9 DBW/HZ NOISE TEMPERATURE: - K
ANTENNA PATTERN: APEREC015V01
2.1_TABLE7 Model: PLM_DUCTING

TRANSMISSION LOSS MODE 1: 160.1 DB (DOES NOT INCLUDE HOR. CORR. AND ANT. GAIN)
TRANSMISSION LOSS MODE 2: 114.1 DB

AZIMUTH	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115
OFF-AXIS	107.4	103.9	100.3	96.7	93.0	89.4	85.8	82.1	78.5	75.0	71.5	68.0	64.7	61.5	58.4	55.6	52.9	50.4	48.3	46.4	45.0	43.9	43.3	43.2
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-9.7	-9.3	-9.1	-8.9	-8.9
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	222	222	228	228	228	228	228	228	228	228	228	222	217	209	209	207	207	207	210	214	218	221	226	229
MODE 2																								
0.0 DEG	110	110	110	110	110	110	110	110	111	111	111	111	112	112	112	112	112	112	112	113	113	113	113	113

AZIMUTH	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235
OFF-AXIS	43.5	44.2	45.4	47.0	48.9	51.2	53.7	56.5	59.4	62.6	65.8	69.2	72.6	76.1	79.7	83.3	87.0	90.6	94.2	97.9	101.5	105.0	108.5	112.0
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-9.0	-9.1	-9.4	-9.8	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	230	232	229	230	228	228	228	239	239	239	239	239	239	239	239	239	239	239	239	239	239	239	239	239
MODE 2																								
0.0 DEG	113	113	113	112	112	112	112	112	112	112	111	111	111	111	111	110	110	110	110	110	110	110	110	110

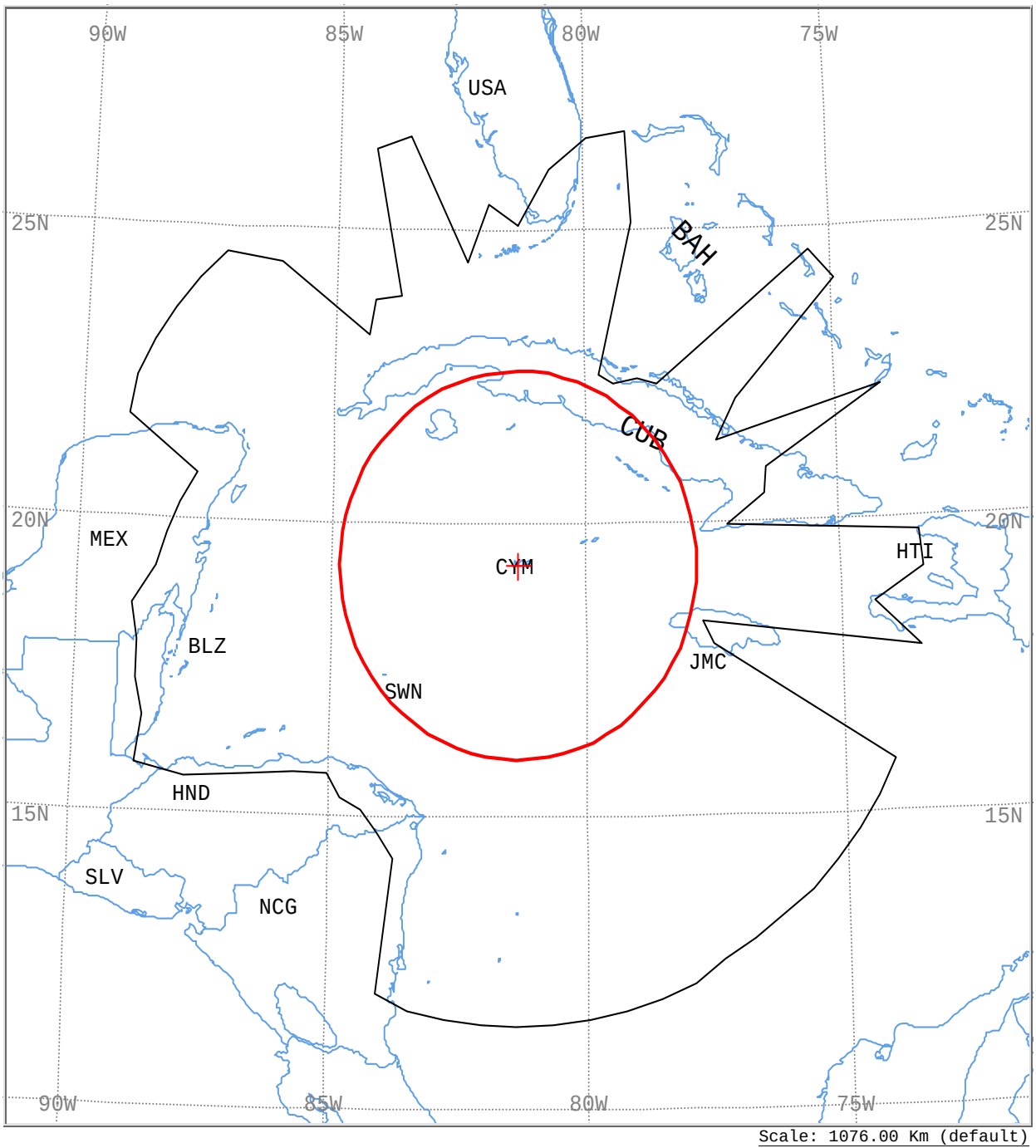
AZIMUTH	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355
OFF-AXIS	115.3	118.5	121.6	124.4	127.1	129.6	131.7	133.6	135.0	136.1	136.7	136.8	136.5	135.8	134.6	133.0	131.1	128.8	126.3	123.5	120.6	117.4	114.2	110.8
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	239	239	239	239	239	239	239	239	239	239	228	228	228	222	219	215	214	212	214	215	217	219	222	222
MODE 2																								
0.0 DEG	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110

PROBABLY AFFECTED COUNTRIES:

Diagram 2: 2.1_TABLE8. RECEIVING GSO ES in FIXED-SATELLITE SERVICE W.R.T. TRANSMITTING TERRESTRIAL STATIONS. TS: fixed, mobile

Notice ID: 8
Administration/Geographical area: CYM/CYM
Satellite orbital position: -45.00
Frequency band: 3838.20-3841.30 MHz

Earth station name: MEVAIII-GEORGETOWN
Earth station position: 081W212819N1734
Satellite name: USASAT-60I



Scale: 1076.00 Km (default)

ES position
Main Mode1
Main Mode2

Diagram 2: 2.1_TABLE8. RECEIVING GSO ES in FIXED-SATELLITE SERVICE W.R.T. TRANSMITTING TERRESTRIAL STATIONS. TS: fixed, mobile

NOTICE ID: 8 EARTH STATION NAME: MEVAIII-GEORGETOWN EARTH STATION POSITION: 081W212819N1734 PHASE: D
ADM/GEO_AREA: CYM/CYM RAIN CLIMATICAL ZONE: N
SATELLITE NAME: USASAT-60I SATELLITE ORBITAL POSITION: -45.00 DEG
ANTENNA AZIMUTH: 114.17 DEG ANTENNA ELEVATION: 43.15 DEG
FREQUENCY BAND: 3838.20-3841.30 MHZ ASSIGNED FREQUENCY: 3839.75 MHZ PERCENTAGE OF TIME: 0.0017 %
MAXIMUM ANTENNA GAIN: 42.1 DBI MAXIMUM POWER DENSITY: - DBW/HZ NOISE TEMPERATURE: 400.0 K
ANTENNA PATTERN: APEREC015V01
2.1_TABLE8 Model: PLM_DUCTING

TRANSMISSION LOSS MODE 1: 198.9 DB (DOES NOT INCLUDE HOR. CORR. AND ANT. GAIN)
TRANSMISSION LOSS MODE 2: 156.9 DB

AZIMUTH	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115
OFF-AXIS	107.4	103.9	100.3	96.7	93.0	89.4	85.8	82.1	78.5	75.0	71.5	68.0	64.7	61.5	58.4	55.6	52.9	50.4	48.3	46.4	45.0	43.9	43.3	43.2
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.5	-6.2	-5.9	-5.8	-5.7
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	642	752	823	851	690	397	397	432	449	851	851	551	476	826	546	529	442	833	840	743	849	399	435	864
MODE 2																								
0.0 DEG	368	368	368	368	369	369	369	369	370	370	370	370	370	371	371	371	371	371	371	371	371	371	371	371

AZIMUTH	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235
OFF-AXIS	43.5	44.2	45.4	47.0	48.9	51.2	53.7	56.5	59.4	62.6	65.8	69.2	72.6	76.1	79.7	83.3	87.0	90.6	94.2	97.9	101.5	105.0	108.5	112.0
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-5.8	-6.0	-6.3	-6.7	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	866	868	864	866	863	863	863	876	876	876	876	876	876	876	876	876	864	613	584	568	574	555	606	686
MODE 2																								
0.0 DEG	371	371	371	371	371	371	371	371	371	370	370	370	370	370	369	369	369	369	369	368	368	368	368	367

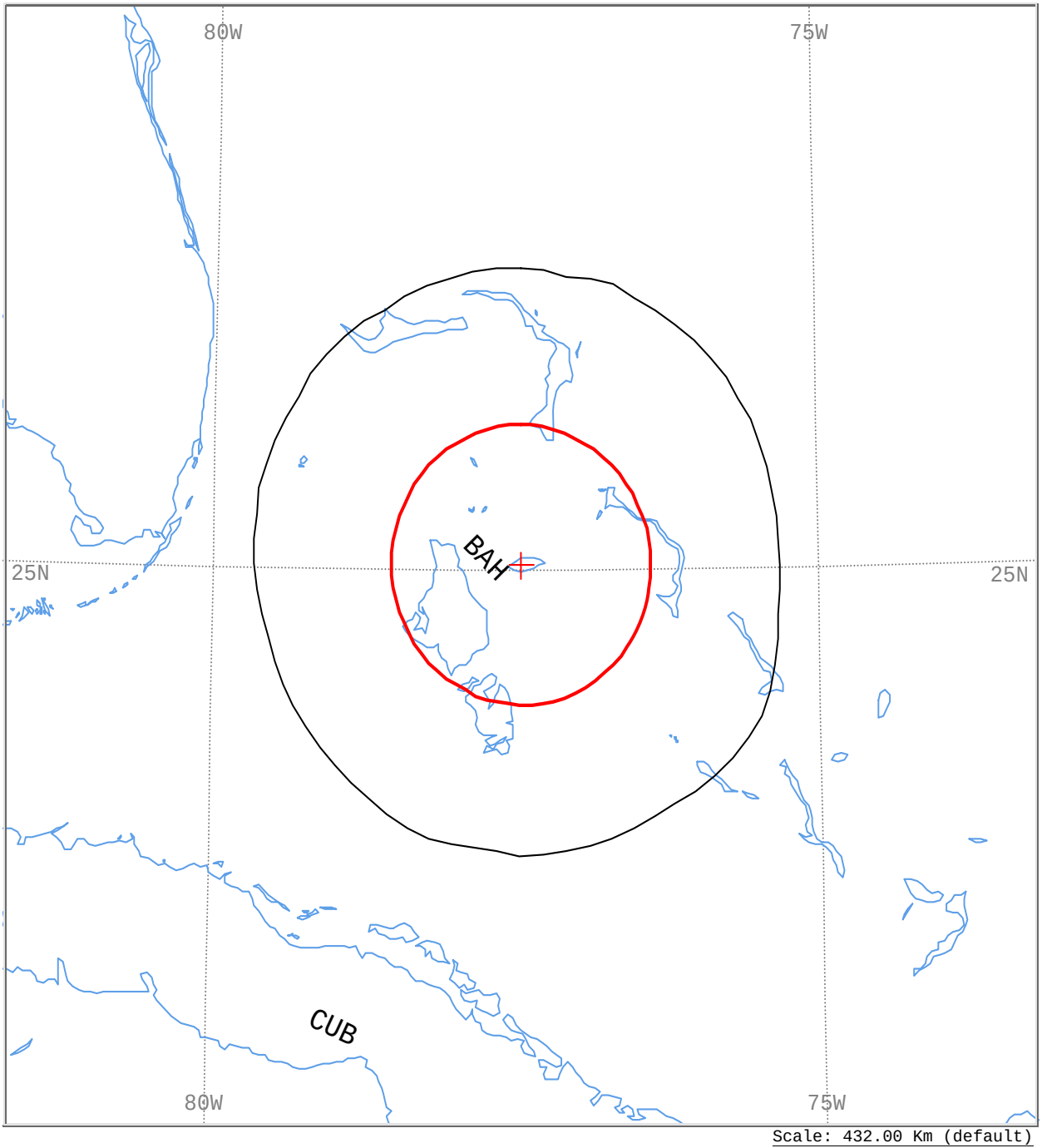
AZIMUTH	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355
OFF-AXIS	115.3	118.5	121.6	124.4	127.1	129.6	131.7	133.6	135.0	136.1	136.7	136.8	136.5	135.8	134.6	133.0	131.1	128.8	126.3	123.5	120.6	117.4	114.2	110.8
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	796	876	826	818	799	798	746	726	707	683	852	863	863	857	852	844	751	532	580	563	839	842	584	686
MODE 2																								
0.0 DEG	367	367	367	367	367	366	366	366	366	366	366	366	366	366	366	366	366	366	367	367	367	367	367	367

PROBABLY AFFECTED COUNTRIES: BAH BLZ CLM CUB GTM HND HTI JMC MEX NCG SWN USA

Diagram 1: 2.1_TABLE7. TRANSMITTING GSO ES in FIXED-SATELLITE SERVICE W.R.T. RECEIVING TERRESTRIAL STATIONS. TS: fixed, mobile

Notice ID: 7
Administration/Geographical area: BAH/BAH
Satellite orbital position: -45.00
Frequency band: 6063.20-6066.30 MHz

Earth station name: MEVAIII-NASSAU
Earth station position: 077W275825N0220
Satellite name: USASAT-60I



Scale: 432.00 Km (default)

ES position
Main Mode1
Main Mode2

ANALYSIS DATE AND TIME: 2014-11-27 12:10:43

VERSION: 2.1.0.1Appendix 7 Pack/Plt-2.0.0.4/Frm-2.0.0.1/Clc-2.0.0.0/Prp-1.2.0.0/SNS-2.0.0.0/AP7F-2.0.0.0/Ref-2.0.0.1

Diagram 1: 2.1_TABLE7. TRANSMITTING GSO ES in FIXED-SATELLITE SERVICE W.R.T. RECEIVING TERRESTRIAL STATIONS. TS: fixed, mobile

NOTICE ID: 7 EARTH STATION NAME: MEVAIII-NASSAU EARTH STATION POSITION: 077W275825N0220 PHASE: D
ADM/GEO_AREA: BAH/BAH RAIN CLIMATICAL ZONE: N
SATELLITE NAME: USASAT-60I SATELLITE ORBITAL POSITION: -45.00 DEG
ANTENNA AZIMUTH: 123.63 DEG ANTENNA ELEVATION: 43.57 DEG
FREQUENCY BAND: 6063.20-6066.30 MHZ ASSIGNED FREQUENCY: 6064.75 MHZ PERCENTAGE OF TIME: 0.0050 %
MAXIMUM ANTENNA GAIN: 49.0 DBI MAXIMUM POWER DENSITY: -51.9 DBW/HZ NOISE TEMPERATURE: - K
ANTENNA PATTERN: APEREC015V01
2.1_TABLE7 Model: PLM_DUCTING

TRANSMISSION LOSS MODE 1: 161.1 DB (DOES NOT INCLUDE HOR. CORR. AND ANT. GAIN)
TRANSMISSION LOSS MODE 2: 115.1 DB

AZIMUTH	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115
OFF-AXIS	113.7	110.3	106.9	103.4	99.8	96.2	92.6	89.0	85.4	81.8	78.2	74.7	71.2	67.8	64.6	61.4	58.4	55.5	52.9	50.5	48.4	46.6	45.2	44.3
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-9.7	-9.4	-9.1
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	227	227	224	226	228	225	225	225	225	224	224	222	221	220	218	217	217	216	216	217	218	222	226	230
MODE 2																								
0.0 DEG	107	107	107	107	107	107	107	107	107	107	108	108	108	108	108	109	109	109	109	109	109	109	109	110

AZIMUTH	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235
OFF-AXIS	43.7	43.6	43.9	44.7	46.0	47.6	49.5	51.8	54.3	57.1	60.0	63.1	66.3	69.7	73.1	76.6	80.2	83.8	87.4	91.0	94.6	98.2	101.8	105.3
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-9.0	-9.0	-9.1	-9.3	-9.6	-9.9	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	232	232	232	229	227	224	224	224	224	224	224	224	224	221	221	222	224	223	221	219	219	219	218	218
MODE 2																								
0.0 DEG	110	110	110	109	109	109	109	109	109	109	109	109	108	108	108	108	108	107	107	107	107	107	107	107

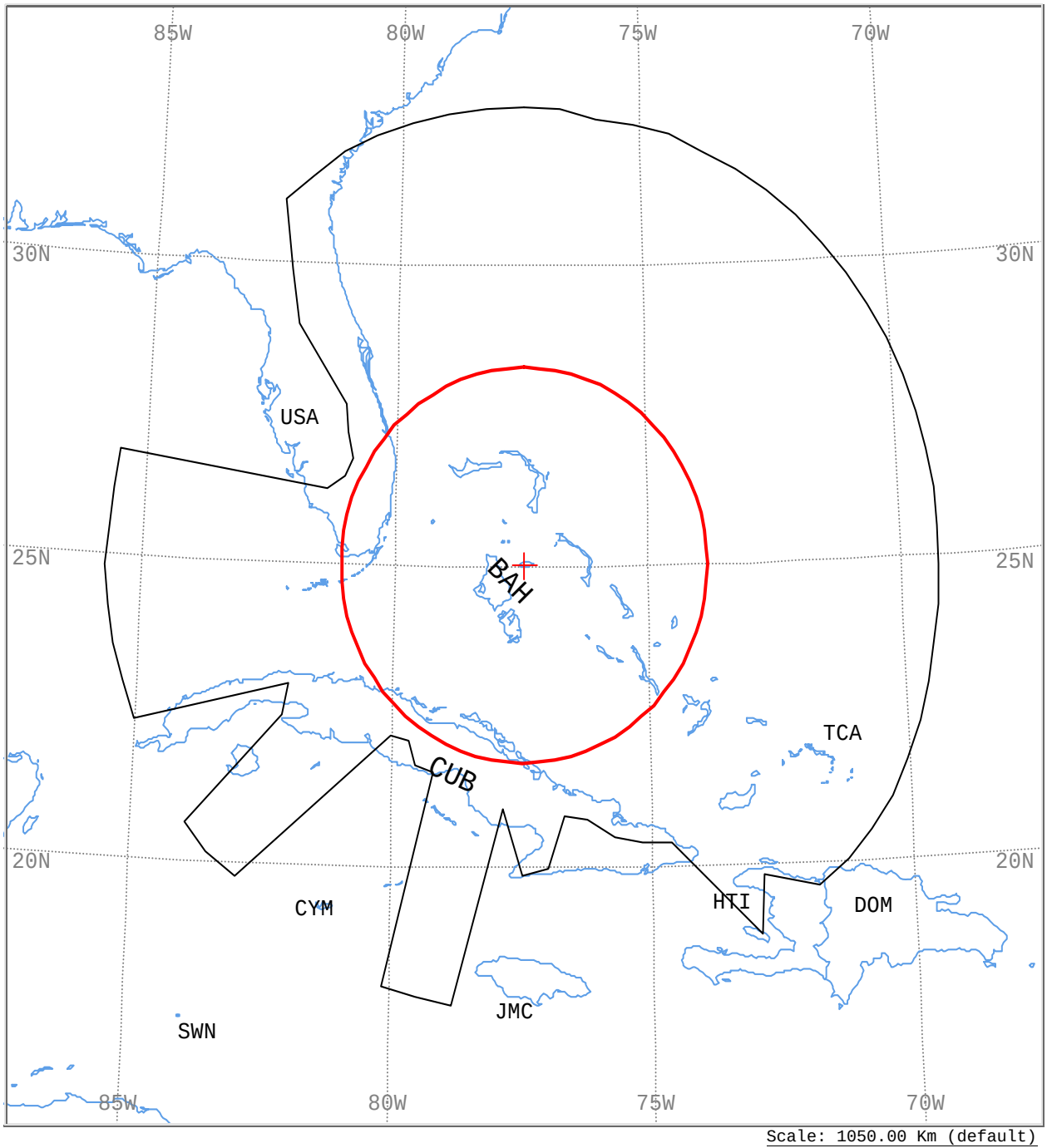
AZIMUTH	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355
OFF-AXIS	108.8	112.2	115.4	118.6	121.6	124.5	127.1	129.5	131.6	133.4	134.8	135.7	136.3	136.4	136.1	135.3	134.0	132.4	130.5	128.2	125.7	122.9	120.0	116.9
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	218	218	217	217	218	220	221	222	222	225	225	225	225	225	228	228	228	227	225	227	227	227	228	228
MODE 2																								
0.0 DEG	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107

PROBABLY AFFECTED COUNTRIES:

Diagram 2: 2.1_TABLE8. RECEIVING GSO ES in FIXED-SATELLITE SERVICE W.R.T. TRANSMITTING TERRESTRIAL STATIONS. TS: fixed, mobile

Notice ID: 7
Administration/Geographical area: BAH/BAH
Satellite orbital position: -45.00
Frequency band: 3838.20-3841.30 MHz

Earth station name: MEVAIII-NASSAU
Earth station position: 077W275825N0220
Satellite name: USASAT-60I



Scale: 1050.00 Km (default)

ES position
Main Mode1
Main Mode2

Diagram 2: 2.1_TABLE8. RECEIVING GSO ES in FIXED-SATELLITE SERVICE W.R.T. TRANSMITTING TERRESTRIAL STATIONS. TS: fixed, mobile

NOTICE ID: 7 EARTH STATION NAME: MEVAIII-NASSAU EARTH STATION POSITION: 077W275825N0220 PHASE: D
ADM/GEO_AREA: BAH/BAH RAIN CLIMATICAL ZONE: N
SATELLITE NAME: USASAT-60I SATELLITE ORBITAL POSITION: -45.00 DEG
ANTENNA AZIMUTH: 123.63 DEG ANTENNA ELEVATION: 43.57 DEG
FREQUENCY BAND: 3838.20-3841.30 MHZ ASSIGNED FREQUENCY: 3839.75 MHZ PERCENTAGE OF TIME: 0.0017 %
MAXIMUM ANTENNA GAIN: 42.1 DBI MAXIMUM POWER DENSITY: - DBW/HZ NOISE TEMPERATURE: 400.0 K
ANTENNA PATTERN: APEREC015V01
2.1_TABLE8 Model: PLM_DUCTING

TRANSMISSION LOSS MODE 1: 198.9 DB (DOES NOT INCLUDE HOR. CORR. AND ANT. GAIN)
TRANSMISSION LOSS MODE 2: 156.9 DB

AZIMUTH	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115
OFF-AXIS	113.7	110.3	106.9	103.4	99.8	96.2	92.6	89.0	85.4	81.8	78.2	74.7	71.2	67.8	64.6	61.4	58.4	55.5	52.9	50.5	48.4	46.6	45.2	44.3
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.6	-6.2	-6.0
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	846	843	835	842	846	843	843	843	843	841	841	839	838	836	833	831	830	829	829	830	832	837	842	847
MODE 2																								
0.0 DEG	364	364	364	364	365	365	365	365	366	366	366	366	366	367	367	367	367	367	367	367	368	368	368	368

AZIMUTH	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235
OFF-AXIS	43.7	43.6	43.9	44.7	46.0	47.6	49.5	51.8	54.3	57.1	60.0	63.1	66.3	69.7	73.1	76.6	80.2	83.8	87.4	91.0	94.6	98.2	101.8	105.3
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-5.9	-5.8	-5.9	-6.1	-6.4	-6.8	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	850	850	847	837	749	835	594	567	538	489	474	566	574	454	829	828	828	423	428	399	413	813	826	826
MODE 2																								
0.0 DEG	368	368	368	368	368	368	368	367	367	367	367	367	367	366	366	366	366	366	365	365	365	365	365	364

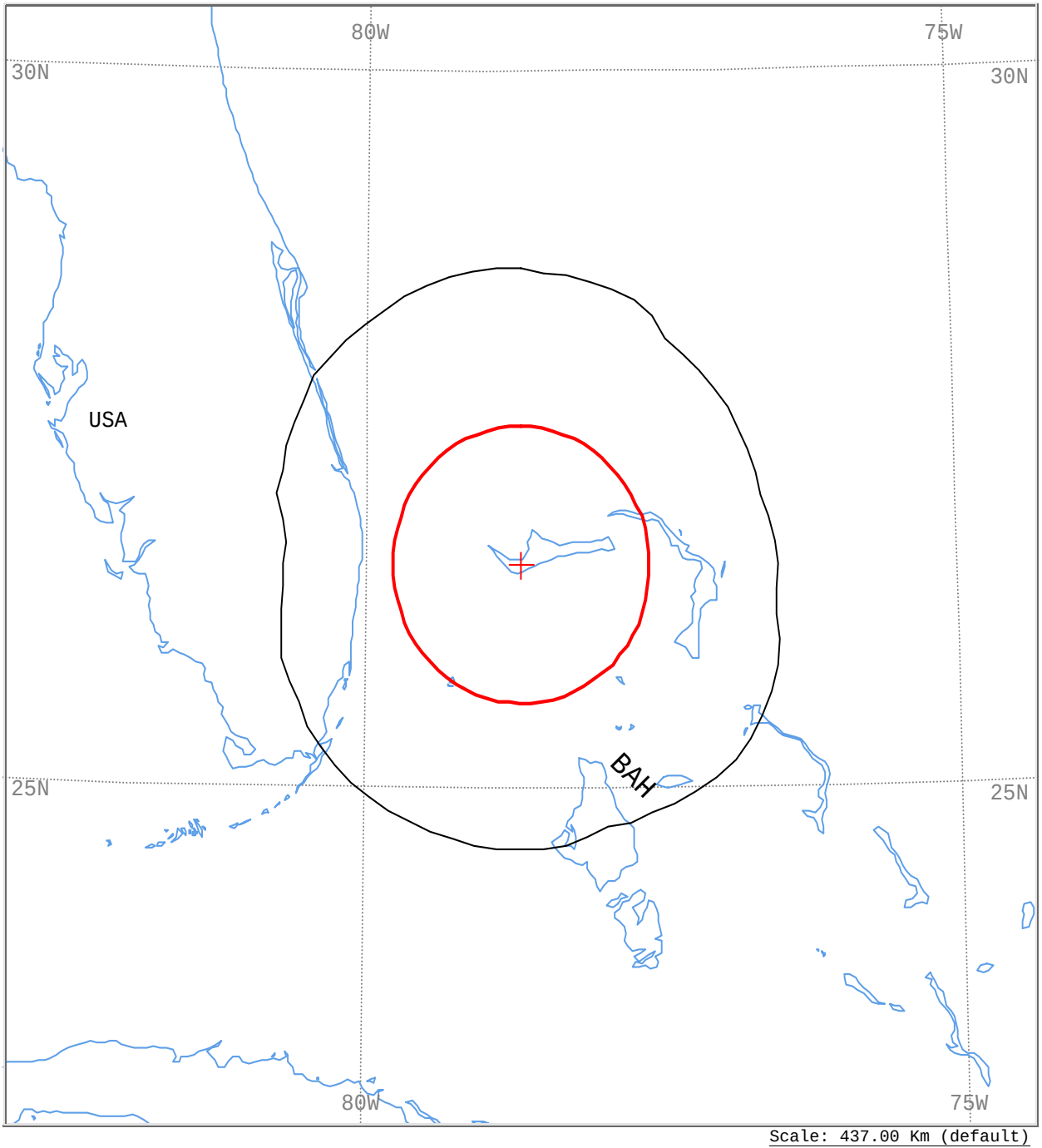
AZIMUTH	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355
OFF-AXIS	108.8	112.2	115.4	118.6	121.6	124.5	127.1	129.5	131.6	133.4	134.8	135.7	136.3	136.4	136.1	135.3	134.0	132.4	130.5	128.2	125.7	122.9	120.0	116.9
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	557	517	825	826	830	832	835	827	827	829	415	390	393	426	459	632	712	825	831	842	845	844	846	846
MODE 2																								
0.0 DEG	364	364	364	364	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363	364

PROBABLY AFFECTED COUNTRIES: CUB DOM HTI TCA USA

Diagram 1: 2.1_TABLE7. TRANSMITTING GSO ES in FIXED-SATELLITE SERVICE W.R.T. RECEIVING TERRESTRIAL STATIONS. TS: fixed, mobile

Notice ID: 6
Administration/Geographical area: BAH/BAH
Satellite orbital position: -45.00
Frequency band: 6063.20-6066.30 MHz

Earth station name: MEVAIII-FREEPORT
Earth station position: 078W414426N3331
Satellite name: USASAT-60I



Scale: 437.00 Km (default)

ES position
Main Mode1
Main Mode2

Diagram 1: 2.1_TABLE7. TRANSMITTING GSO ES in FIXED-SATELLITE SERVICE W.R.T. RECEIVING TERRESTRIAL STATIONS. TS: fixed, mobile

NOTICE ID: 6 EARTH STATION NAME: MEVAIII-FREEPORT EARTH STATION POSITION: 078W414426N3331 PHASE: D
ADM/GEO_AREA: BAH/BAH RAIN CLIMATICAL ZONE: N
SATELLITE NAME: USASAT-60I SATELLITE ORBITAL POSITION: -45.00 DEG
ANTENNA AZIMUTH: 123.84 DEG ANTENNA ELEVATION: 41.61 DEG
FREQUENCY BAND: 6063.20-6066.30 MHZ ASSIGNED FREQUENCY: 6064.75 MHZ PERCENTAGE OF TIME: 0.0050 %
MAXIMUM ANTENNA GAIN: 49.0 DBI MAXIMUM POWER DENSITY: -51.9 DBW/HZ NOISE TEMPERATURE: - K
ANTENNA PATTERN: APEREC015V01
2.1_TABLE7 Model: PLM_DUCTING

TRANSMISSION LOSS MODE 1: 161.1 DB (DOES NOT INCLUDE HOR. CORR. AND ANT. GAIN)
TRANSMISSION LOSS MODE 2: 115.1 DB

AZIMUTH	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115
OFF-AXIS	114.6	111.1	107.6	104.0	100.3	96.6	92.9	89.1	85.4	81.7	78.0	74.3	70.8	67.2	63.8	60.5	57.4	54.4	51.6	49.1	46.8	45.0	43.4	42.4
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-9.8	-9.3	-8.9	-8.7
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	230	227	227	227	227	226	222	213	213	213	213	213	212	212	211	210	213	215	217	217	220	226	231	234
MODE 2																								
0.0 DEG	107	107	107	107	107	107	107	107	107	107	108	108	108	108	109	109	109	109	109	109	109	110	110	110

AZIMUTH	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235
OFF-AXIS	41.8	41.6	42.0	42.8	44.1	45.8	47.8	50.2	52.9	55.7	58.8	62.0	65.4	68.9	72.4	76.0	79.7	83.4	87.1	90.9	94.6	98.3	102.0	105.7
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-8.5	-8.5	-8.6	-8.8	-9.1	-9.5	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	236	237	237	234	231	227	222	222	217	219	222	222	222	222	222	221	221	221	221	221	221	220	220	219
MODE 2																								
0.0 DEG	110	110	110	110	110	109	109	109	109	109	109	109	108	108	108	108	108	107	107	107	107	107	107	107

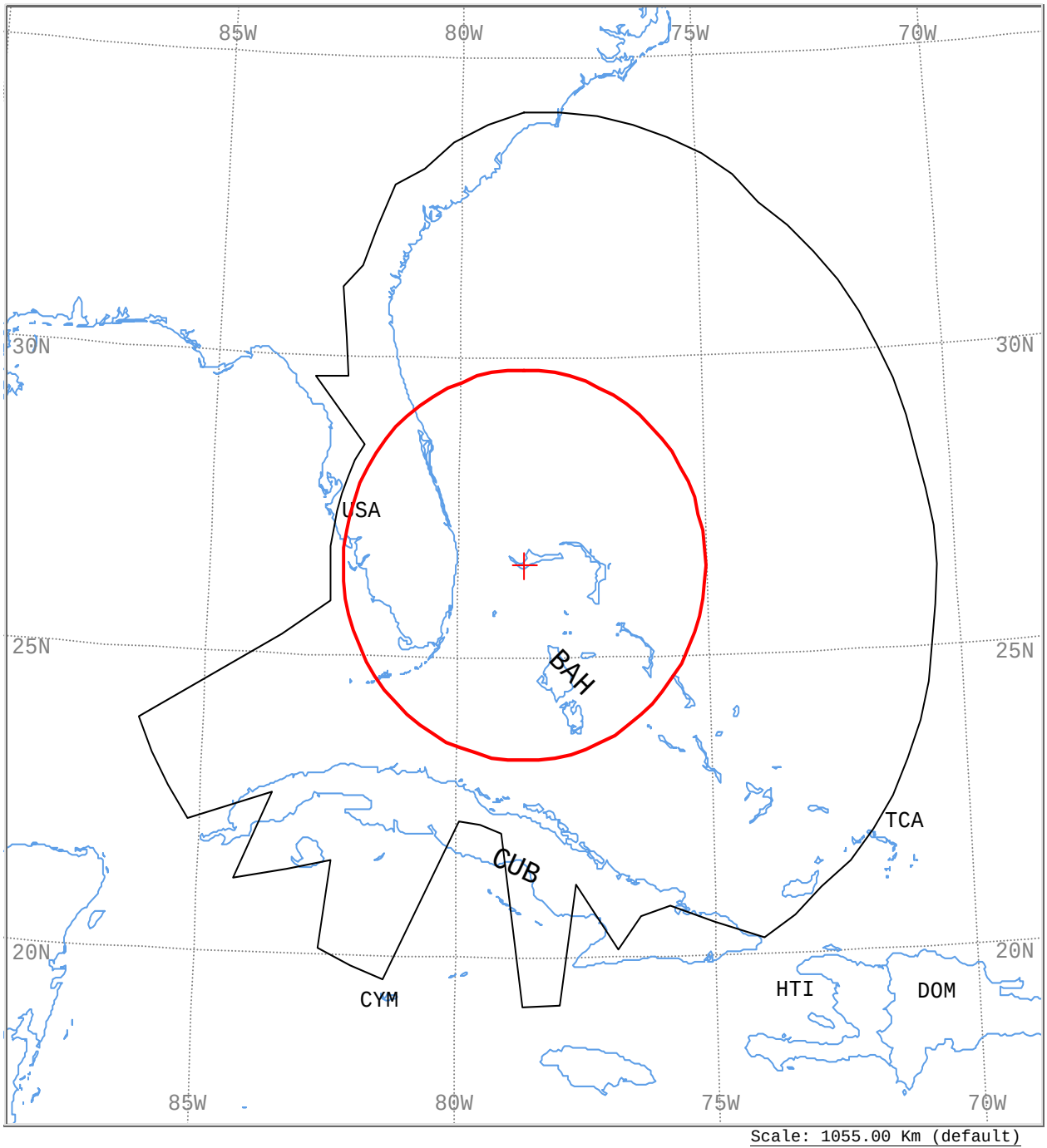
AZIMUTH	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355
OFF-AXIS	109.2	112.8	116.2	119.5	122.6	125.6	128.4	130.9	133.2	135.0	136.6	137.6	138.2	138.4	138.0	137.2	135.9	134.2	132.2	129.8	127.1	124.3	121.2	118.0
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	215	215	214	208	204	200	199	198	203	212	212	217	219	222	227	227	227	227	227	230	230	230	230	230
MODE 2																								
0.0 DEG	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107

PROBABLY AFFECTED COUNTRIES: USA

Diagram 2: 2.1_TABLE8. RECEIVING GSO ES in FIXED-SATELLITE SERVICE W.R.T. TRANSMITTING TERRESTRIAL STATIONS. TS: fixed, mobile

Notice ID: 6
Administration/Geographical area: BAH/BAH
Satellite orbital position: -45.00
Frequency band: 3838.20-3841.30 MHz

Earth station name: MEVAIII-FREEPORT
Earth station position: 078W414426N3331
Satellite name: USASAT-60I



Scale: 1055.00 Km (default)

ES position
Main Mode1
Main Mode2

Diagram 2: 2.1_TABLE8. RECEIVING GSO ES in FIXED-SATELLITE SERVICE W.R.T. TRANSMITTING TERRESTRIAL STATIONS. TS: fixed, mobile

NOTICE ID: 6 EARTH STATION NAME: MEVAIII-FREEPORT EARTH STATION POSITION: 078W414426N3331 PHASE: D
ADM/GEO_AREA: BAH/BAH RAIN CLIMATICAL ZONE: N
SATELLITE NAME: USASAT-60I SATELLITE ORBITAL POSITION: -45.00 DEG
ANTENNA AZIMUTH: 123.84 DEG ANTENNA ELEVATION: 41.61 DEG
FREQUENCY BAND: 3838.20-3841.30 MHZ ASSIGNED FREQUENCY: 3839.75 MHZ PERCENTAGE OF TIME: 0.0017 %
MAXIMUM ANTENNA GAIN: 42.1 DBI MAXIMUM POWER DENSITY: - DBW/HZ NOISE TEMPERATURE: 400.0 K
ANTENNA PATTERN: APEREC015V01
2.1_TABLE8 Model: PLM_DUCTING

TRANSMISSION LOSS MODE 1: 198.9 DB (DOES NOT INCLUDE HOR. CORR. AND ANT. GAIN)
TRANSMISSION LOSS MODE 2: 156.9 DB

AZIMUTH	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115
OFF-AXIS	114.6	111.1	107.6	104.0	100.3	96.6	92.9	89.1	85.4	81.7	78.0	74.3	70.8	67.2	63.8	60.5	57.4	54.4	51.6	49.1	46.8	45.0	43.4	42.4
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.6	-6.2	-5.8	-5.5
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	837	840	845	845	845	841	836	822	822	822	821	820	819	818	815	814	819	826	829	830	833	841	847	851
MODE 2																								
0.0 DEG	361	361	361	362	362	362	362	363	363	363	363	364	364	364	364	364	364	365	365	365	365	365	365	365

AZIMUTH	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235
OFF-AXIS	41.8	41.6	42.0	42.8	44.1	45.8	47.8	50.2	52.9	55.7	58.8	62.0	65.4	68.9	72.4	76.0	79.7	83.4	87.1	90.9	94.6	98.3	102.0	105.7
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-5.4	-5.3	-5.4	-5.6	-6.0	-6.4	-6.8	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	854	855	855	846	849	843	764	698	693	741	603	823	822	503	491	495	821	821	821	670	738	821	657	821
MODE 2																								
0.0 DEG	365	365	365	365	365	365	365	365	365	365	364	364	364	364	364	363	363	363	363	363	362	362	362	362

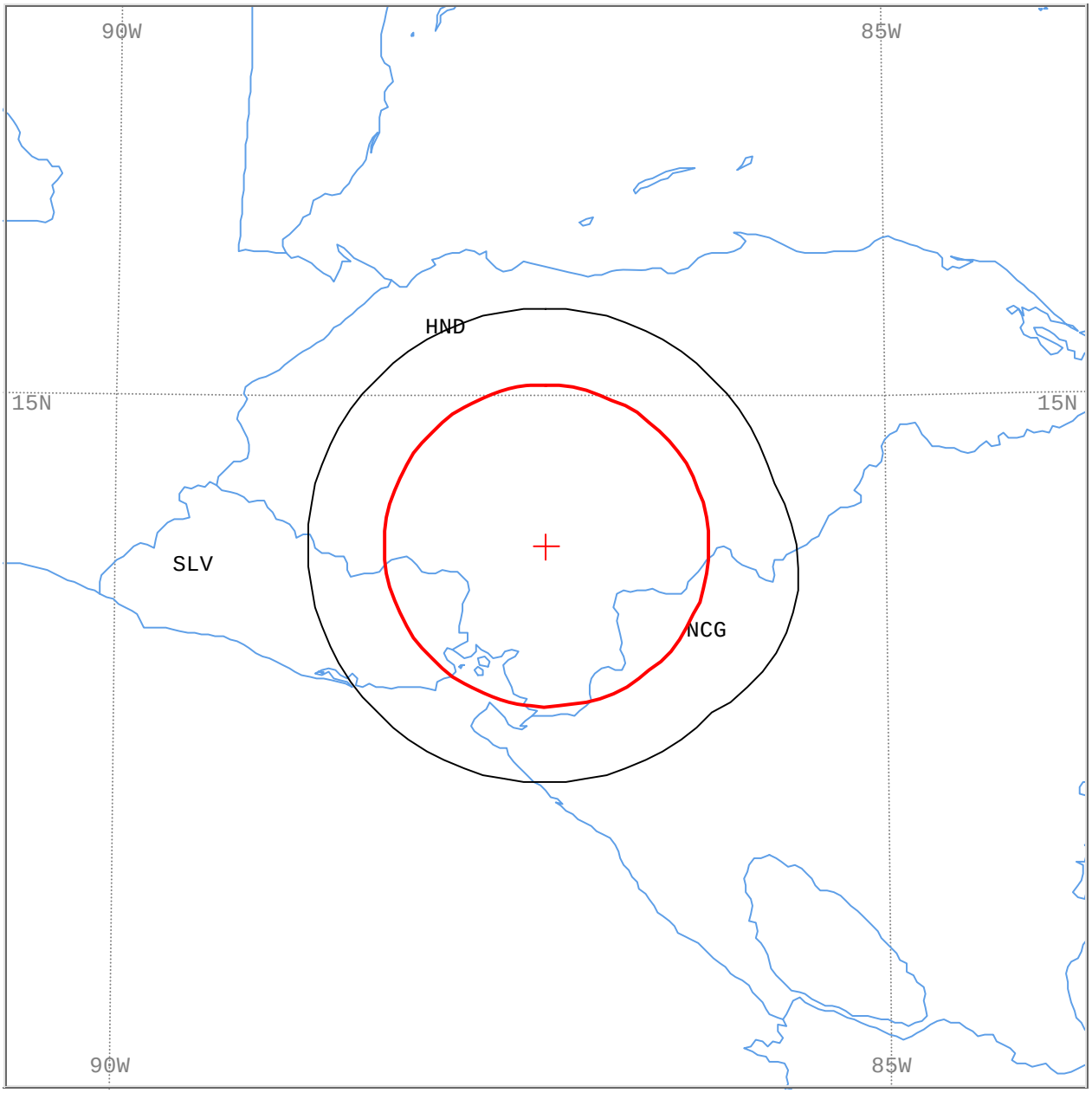
AZIMUTH	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355
OFF-AXIS	109.2	112.8	116.2	119.5	122.6	125.6	128.4	130.9	133.2	135.0	136.6	137.6	138.2	138.4	138.0	137.2	135.9	134.2	132.2	129.8	127.1	124.3	121.2	118.0
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	820	820	819	499	392	386	386	386	386	386	386	387	388	388	542	497	549	629	642	693	751	761	795	819
MODE 2																								
0.0 DEG	361	361	361	361	361	360	360	360	360	360	360	360	360	360	360	360	360	360	360	360	360	361	361	361

PROBABLY AFFECTED COUNTRIES: CUB TCA USA

Diagram 1: 2.1_TABLE7. TRANSMITTING GSO ES in FIXED-SATELLITE SERVICE W.R.T. RECEIVING TERRESTRIAL STATIONS. TS: fixed, mobile

Notice ID: 5
Administration/Geographical area: HND/HND
Satellite orbital position: -45.00
Frequency band: 6063.20-6066.30 MHz

Earth station name: MEVAIII-COCESNA
Earth station position: 087W130114N0342
Satellite name: USASAT-60I



Scale: 380.00 Km (default)

ES position
Main Mode1
Main Mode2

Diagram 1: 2.1_TABLE7. TRANSMITTING GSO ES in FIXED-SATELLITE SERVICE W.R.T. RECEIVING TERRESTRIAL STATIONS. TS: fixed, mobile

NOTICE ID: 5 EARTH STATION NAME: MEVAIII-COCESNA EARTH STATION POSITION: 087W130114N0342 PHASE: D
ADM/GEO_AREA: HND/HND RAIN CLIMATICAL ZONE: P
SATELLITE NAME: USASAT-60I SATELLITE ORBITAL POSITION: -45.00 DEG
ANTENNA AZIMUTH: 104.99 DEG ANTENNA ELEVATION: 39.20 DEG
FREQUENCY BAND: 6063.20-6066.30 MHZ ASSIGNED FREQUENCY: 6064.75 MHZ PERCENTAGE OF TIME: 0.0050 %
MAXIMUM ANTENNA GAIN: 49.0 DBI MAXIMUM POWER DENSITY: -53.9 DBW/HZ NOISE TEMPERATURE: - K
ANTENNA PATTERN: APEREC015V01
2.1_TABLE7 Model: PLM_DUCTING

TRANSMISSION LOSS MODE 1: 159.1 DB (DOES NOT INCLUDE HOR. CORR. AND ANT. GAIN)
TRANSMISSION LOSS MODE 2: 113.1 DB

AZIMUTH	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115
OFF-AXIS	101.6	97.7	93.9	90.0	86.1	82.3	78.4	74.6	70.9	67.2	63.6	60.1	56.8	53.6	50.6	47.8	45.4	43.3	41.5	40.3	39.5	39.2	39.5	40.3
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-9.4	-8.9	-8.5	-8.1	-7.9	-7.8	-7.9	-8.1
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	170	173	176	178	180	180	180	178
MODE 2																								
0.0 DEG	112	112	112	112	112	112	113	113	113	114	114	114	114	114	114	115	115	115	115	115	115	115	115	115

AZIMUTH	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235
OFF-AXIS	41.5	43.3	45.4	47.9	50.6	53.6	56.8	60.1	63.6	67.2	70.9	74.6	78.4	82.3	86.1	90.0	93.9	97.7	101.6	105.4	109.1	112.8	116.4	119.9
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-8.5	-8.9	-9.4	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	176	173	170	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166
MODE 2																								
0.0 DEG	115	115	115	115	114	114	114	114	114	114	113	113	113	112	112	112	112	112	112	112	112	112	112	112

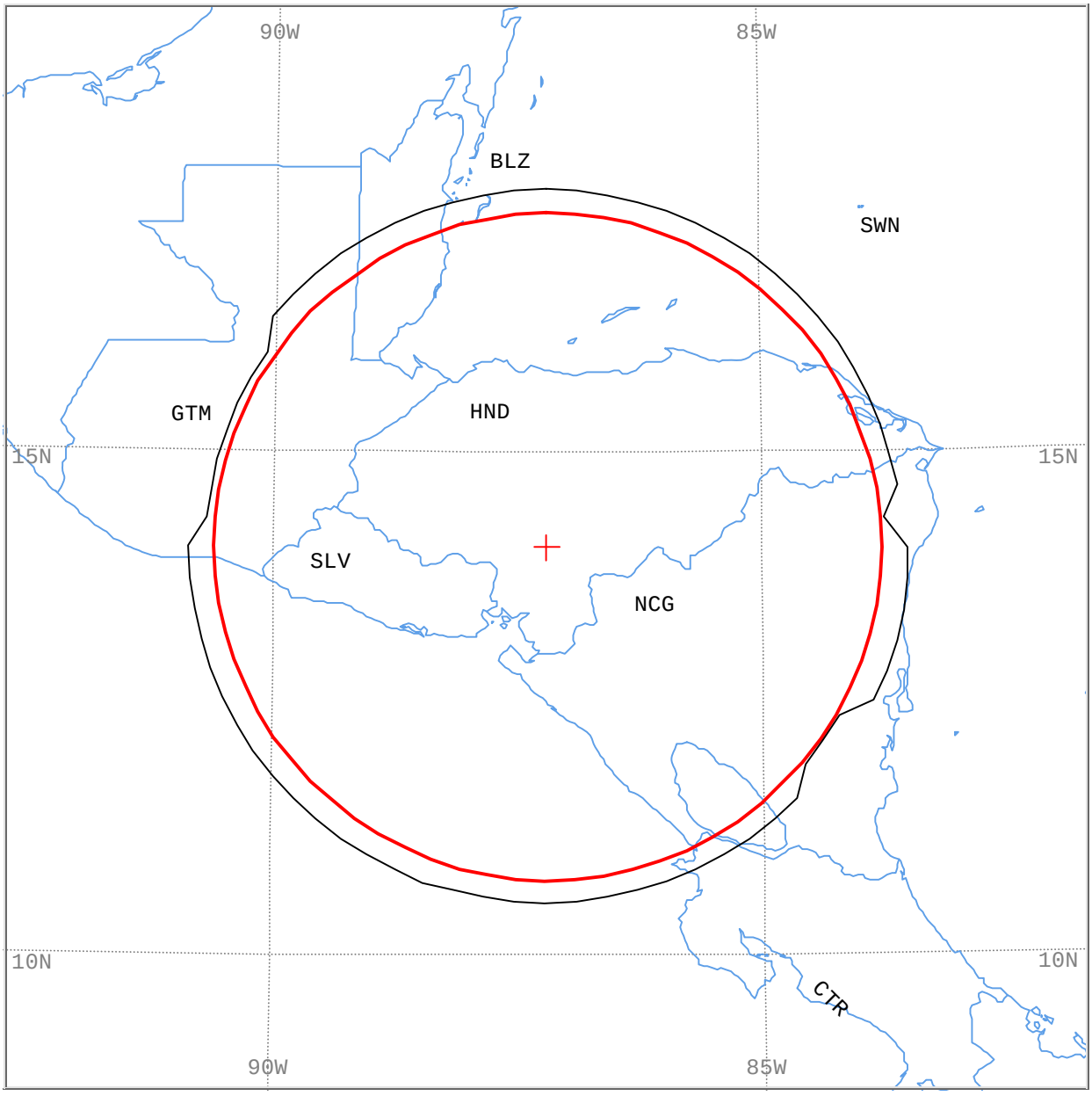
AZIMUTH	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355
OFF-AXIS	123.2	126.4	129.4	132.2	134.6	136.7	138.5	139.7	140.5	140.8	140.5	139.7	138.5	136.7	134.6	132.1	129.4	126.4	123.2	119.9	116.4	112.8	109.1	105.4
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166
MODE 2																								
0.0 DEG	112	112	112	112	112	112	112	112	112	112	112	112	112	112	112	112	112	112	112	112	112	112	112	112

PROBABLY AFFECTED COUNTRIES: NCG SLV

Diagram 2: 2.1_TABLE8. RECEIVING GSO ES in FIXED-SATELLITE SERVICE W.R.T. TRANSMITTING TERRESTRIAL STATIONS. TS: fixed, mobile

Notice ID: 5
Administration/Geographical area: HND/HND
Satellite orbital position: -45.00
Frequency band: 3838.20-3841.30 MHz

Earth station name: MEVAIII-COCESNA
Earth station position: 087W130114N0342
Satellite name: USASAT-60I



Scale: 602.00 Km (default)

ES position
Main Mode1
Main Mode2

Diagram 2: 2.1_TABLE8. RECEIVING GSO ES in FIXED-SATELLITE SERVICE W.R.T. TRANSMITTING TERRESTRIAL STATIONS. TS: fixed, mobile

NOTICE ID: 5 EARTH STATION NAME: MEVAIII-COCESNA EARTH STATION POSITION: 087W130114N0342 PHASE: D
ADM/GEO_AREA: HND/HND RAIN CLIMATICAL ZONE: P
SATELLITE NAME: USASAT-60I SATELLITE ORBITAL POSITION: -45.00 DEG
ANTENNA AZIMUTH: 104.99 DEG ANTENNA ELEVATION: 39.20 DEG
FREQUENCY BAND: 3838.20-3841.30 MHZ ASSIGNED FREQUENCY: 3839.75 MHZ PERCENTAGE OF TIME: 0.0017 %
MAXIMUM ANTENNA GAIN: 42.1 DBI MAXIMUM POWER DENSITY: - DBW/HZ NOISE TEMPERATURE: 400.0 K
ANTENNA PATTERN: APEREC015V01
2.1_TABLE8 Model: PLM_DUCTING

TRANSMISSION LOSS MODE 1: 198.9 DB (DOES NOT INCLUDE HOR. CORR. AND ANT. GAIN)
TRANSMISSION LOSS MODE 2: 156.9 DB

AZIMUTH	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115
OFF-AXIS	101.6	97.7	93.9	90.0	86.1	82.3	78.4	74.6	70.9	67.2	63.6	60.1	56.8	53.6	50.6	47.8	45.4	43.3	41.5	40.3	39.5	39.2	39.5	40.3
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.8	-6.3	-5.8	-5.3	-5.0	-4.8	-4.7	-4.8	-5.0
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	394	394	394	394	394	394	394	394	394	394	394	394	394	394	394	394	396	375	400	401	402	402	402	401
MODE 2																								
0.0 DEG	368	368	369	369	369	369	370	370	370	370	371	371	371	371	371	371	372	372	372	372	372	372	372	372

AZIMUTH	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235
OFF-AXIS	41.5	43.3	45.4	47.9	50.6	53.6	56.8	60.1	63.6	67.2	70.9	74.6	78.4	82.3	86.1	90.0	93.9	97.7	101.6	105.4	109.1	112.8	116.4	119.9
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-5.3	-5.8	-6.3	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	375	375	375	394	394	394	394	394	394	394	394	394	394	394	394	394	396	394	394	394	394	394	394	394
MODE 2																								
0.0 DEG	372	372	372	371	371	371	371	371	371	370	370	370	370	369	369	369	369	368	368	368	367	367	367	367

AZIMUTH	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355
OFF-AXIS	123.2	126.4	129.4	132.2	134.6	136.7	138.5	139.7	140.5	140.8	140.5	139.7	138.5	136.7	134.6	132.1	129.4	126.4	123.2	119.9	116.4	112.8	109.1	105.4
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	394	394	394	394	394	394	394	375	375	375	375	375	375	375	394	394	394	394	394	394	394	394	394	394
MODE 2																								
0.0 DEG	367	366	366	366	366	366	366	366	366	366	366	366	366	366	366	366	366	366	367	367	367	367	367	368

PROBABLY AFFECTED COUNTRIES: BLZ CTR GTM NCG SLV

Diagram 1: 2.1_TABLE7. TRANSMITTING GSO ES in FIXED-SATELLITE SERVICE W.R.T. RECEIVING TERRESTRIAL STATIONS. TS: fixed, mobile

Notice ID: 3
Administration/Geographical area: VEN/VEN
Satellite orbital position: -45.00
Frequency band: 6063.20-6066.30 MHz

Earth station name: MEVAIII-CARACAS
Earth station position: 066W592610N3611
Satellite name: USASAT-60I

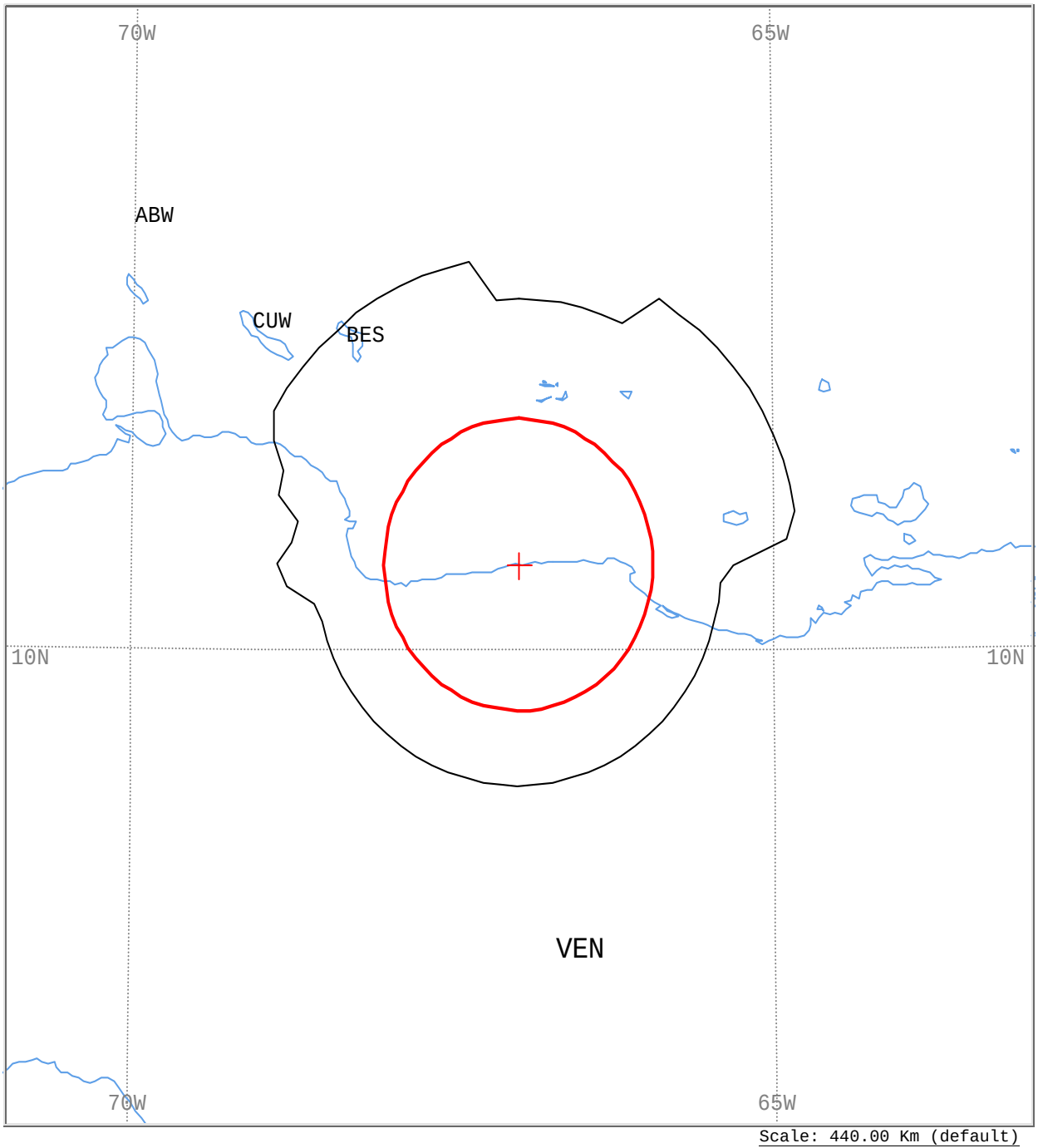


Diagram 1: 2.1_TABLE7. TRANSMITTING GSO ES in FIXED-SATELLITE SERVICE W.R.T. RECEIVING TERRESTRIAL STATIONS. TS: fixed, mobile

NOTICE ID: 3 EARTH STATION NAME: MEVAIII-CARACAS EARTH STATION POSITION: 066W592610N3611 PHASE: D
ADM/GEO_AREA: VEN/VEN RAIN CLIMATICAL ZONE: N
SATELLITE NAME: USASAT-60I SATELLITE ORBITAL POSITION: -45.00 DEG
ANTENNA AZIMUTH: 114.50 DEG ANTENNA ELEVATION: 61.58 DEG
FREQUENCY BAND: 6063.20-6066.30 MHZ ASSIGNED FREQUENCY: 6064.75 MHZ PERCENTAGE OF TIME: 0.0050 %
MAXIMUM ANTENNA GAIN: 49.0 DBI MAXIMUM POWER DENSITY: -53.1 DBW/HZ NOISE TEMPERATURE: - K
ANTENNA PATTERN: APEREC015V01
2.1_TABLE7 Model: PLM_DUCTING

TRANSMISSION LOSS MODE 1: 159.9 DB (DOES NOT INCLUDE HOR. CORR. AND ANT. GAIN)
TRANSMISSION LOSS MODE 2: 113.9 DB

AZIMUTH	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115
OFF-AXIS	101.4	99.1	96.8	94.5	92.1	89.8	87.4	85.0	82.7	80.4	78.2	76.0	74.0	72.0	70.2	68.5	66.9	65.5	64.3	63.3	62.6	62.0	61.7	61.6
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	208	208	208	208	208	208	240	239	240	240	240	240	240	240	240	240	239	229	183	173	173	173	173	173
MODE 2																								
0.0 DEG	114	114	114	114	114	114	114	114	114	114	115	115	115	115	115	115	115	115	115	115	115	115	115	115

AZIMUTH	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235
OFF-AXIS	61.7	62.1	62.7	63.5	64.6	65.8	67.2	68.8	70.5	72.4	74.4	76.4	78.6	80.9	83.2	85.5	87.9	90.2	92.6	95.0	97.3	99.6	101.8	104.0
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173
MODE 2																								
0.0 DEG	115	115	115	115	115	115	115	115	115	115	115	115	115	114	114	114	114	114	114	114	114	114	114	114

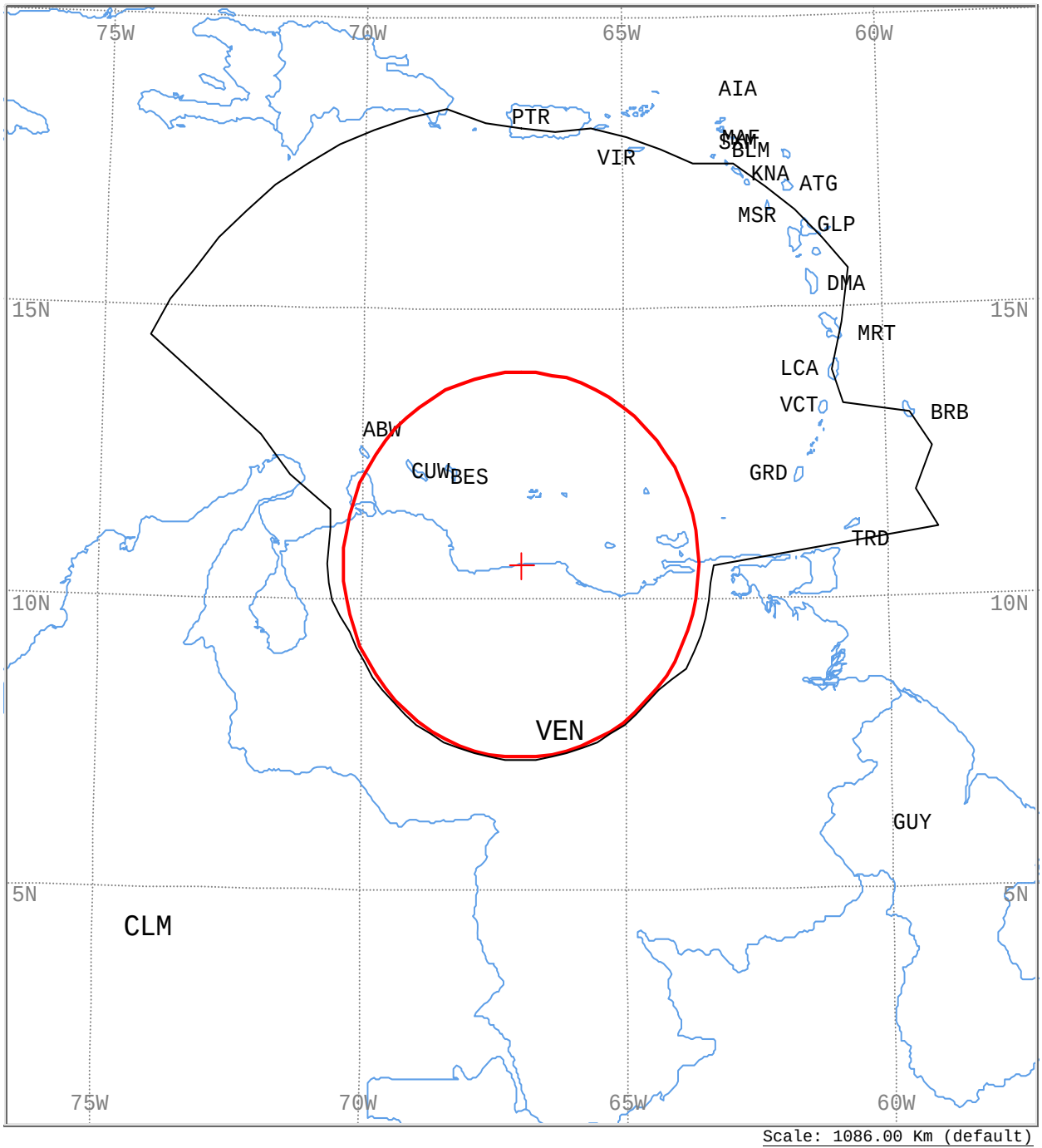
AZIMUTH	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355
OFF-AXIS	106.0	108.0	109.8	111.5	113.1	114.5	115.7	116.7	117.4	118.0	118.3	118.4	118.3	117.9	117.3	116.5	115.4	114.2	112.8	111.2	109.5	107.6	105.6	103.6
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	173	173	173	173	176	198	205	193	190	211	213	229	240	240	240	240	239	240	240	240	240	240	240	208
MODE 2																								
0.0 DEG	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114

PROBABLY AFFECTED COUNTRIES: BES

Diagram 2: 2.1_TABLE8. RECEIVING GSO ES in FIXED-SATELLITE SERVICE W.R.T. TRANSMITTING TERRESTRIAL STATIONS. TS: fixed, mobile

Notice ID: 3
Administration/Geographical area: VEN/VEN
Satellite orbital position: -45.00
Frequency band: 3838.20-3841.30 MHz

Earth station name: MEVAIII-CARACAS
Earth station position: 066W592610N3611
Satellite name: USASAT-60I



Scale: 1086.00 Km (default)

ES position
Main Mode1
Main Mode2

Diagram 2: 2.1_TABLE8. RECEIVING GSO ES in FIXED-SATELLITE SERVICE W.R.T. TRANSMITTING TERRESTRIAL STATIONS. TS: fixed, mobile

NOTICE ID: 3 EARTH STATION NAME: MEVAIII-CARACAS EARTH STATION POSITION: 066W592610N3611 PHASE: D
ADM/GEO_AREA: VEN/VEN RAIN CLIMATICAL ZONE: N
SATELLITE NAME: USASAT-60I SATELLITE ORBITAL POSITION: -45.00 DEG
ANTENNA AZIMUTH: 114.50 DEG ANTENNA ELEVATION: 61.58 DEG
FREQUENCY BAND: 3838.20-3841.30 MHZ ASSIGNED FREQUENCY: 3839.75 MHZ PERCENTAGE OF TIME: 0.0017 %
MAXIMUM ANTENNA GAIN: 42.1 DBI MAXIMUM POWER DENSITY: - DBW/HZ NOISE TEMPERATURE: 400.0 K
ANTENNA PATTERN: APEREC015V01
2.1_TABLE8 Model: PLM_DUCTING

TRANSMISSION LOSS MODE 1: 198.9 DB (DOES NOT INCLUDE HOR. CORR. AND ANT. GAIN)
TRANSMISSION LOSS MODE 2: 156.9 DB

AZIMUTH	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115
OFF-AXIS	101.4	99.1	96.8	94.5	92.1	89.8	87.4	85.0	82.7	80.4	78.2	76.0	74.0	72.0	70.2	68.5	66.9	65.5	64.3	63.3	62.6	62.0	61.7	61.6
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	835	831	847	847	847	847	886	885	886	886	886	813	747	738	859	886	834	872	402	397	397	397	397	397
MODE 2																								
0.0 DEG	368	368	368	369	369	369	369	369	369	369	369	369	370	370	370	370	370	370	370	370	370	370	370	370

AZIMUTH	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235
OFF-AXIS	61.7	62.1	62.7	63.5	64.6	65.8	67.2	68.8	70.5	72.4	74.4	76.4	78.6	80.9	83.2	85.5	87.9	90.2	92.6	95.0	97.3	99.6	101.8	104.0
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	397	383	376	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375	376	376
MODE 2																								
0.0 DEG	370	370	370	370	370	370	370	370	370	370	370	369	369	369	369	369	369	369	369	369	368	368	368	368

AZIMUTH	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355
OFF-AXIS	106.0	108.0	109.8	111.5	113.1	114.5	115.7	116.7	117.4	118.0	118.3	118.4	118.3	117.9	117.3	116.5	115.4	114.2	112.8	111.2	109.5	107.6	105.6	103.6
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	376	376	376	388	398	399	400	401	402	410	510	595	886	886	882	886	885	886	886	886	886	886	886	847
MODE 2																								
0.0 DEG	368	368	368	368	368	368	368	368	367	367	367	367	367	367	367	368	368	368	368	368	368	368	368	368

PROBABLY AFFECTED COUNTRIES: ABW BES BRB CLM CUW DMA DOM GLP GRD KNA LCA MRT MSR PTR TRD VCT VIR

Diagram 1: 2.1_TABLE7. TRANSMITTING GSO ES in FIXED-SATELLITE SERVICE W.R.T. RECEIVING TERRESTRIAL STATIONS. TS: fixed, mobile

Notice ID: 1
Administration/Geographical area: USA/USA
Satellite orbital position: -45.00
Frequency band: 6063.20-6066.30 MHz

Earth station name: MEVAIII-ATLANTA
Earth station position: 084W254033N3821
Satellite name: USASAT-60I

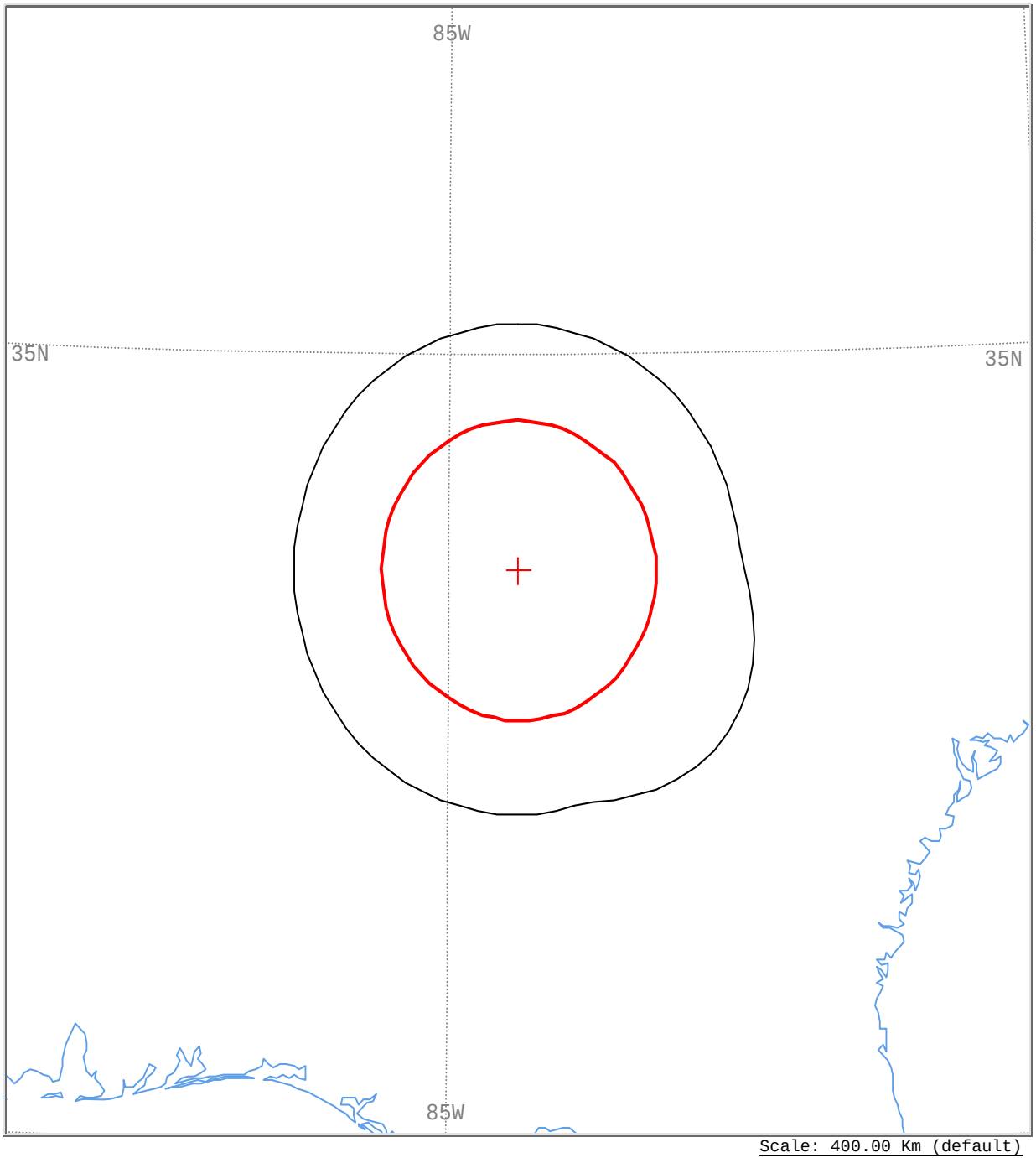


Diagram 1: 2.1_TABLE7. TRANSMITTING GSO ES in FIXED-SATELLITE SERVICE W.R.T. RECEIVING TERRESTRIAL STATIONS. TS: fixed, mobile

NOTICE ID: 1 EARTH STATION NAME: MEVAIII-ATLANTA EARTH STATION POSITION: 084W254033N3821 PHASE: D
ADM/GEO_AREA: USA/USA RAIN CLIMATICAL ZONE: M
SATELLITE NAME: USASAT-60I SATELLITE ORBITAL POSITION: -45.00 DEG
ANTENNA AZIMUTH: 123.97 DEG ANTENNA ELEVATION: 32.72 DEG
FREQUENCY BAND: 6063.20-6066.30 MHZ ASSIGNED FREQUENCY: 6064.75 MHZ PERCENTAGE OF TIME: 0.0050 %
MAXIMUM ANTENNA GAIN: 49.0 DBI MAXIMUM POWER DENSITY: -50.9 DBW/HZ NOISE TEMPERATURE: - K
ANTENNA PATTERN: APEREC015V01
2.1_TABLE7 Model: PLM_DUCTING

TRANSMISSION LOSS MODE 1: 162.1 DB (DOES NOT INCLUDE HOR. CORR. AND ANT. GAIN)
TRANSMISSION LOSS MODE 2: 116.1 DB

AZIMUTH	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115
OFF-AXIS	118.0	114.0	110.0	105.9	101.7	97.5	93.3	89.1	84.9	80.7	76.6	72.4	68.3	64.3	60.3	56.5	52.7	49.1	45.8	42.6	39.8	37.3	35.3	33.8
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-9.5	-8.7	-8.0	-7.3	-6.7	-6.2
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	177	181	186	191	195	198
MODE 2																								
0.0 DEG	105	105	105	105	105	105	105	105	105	106	106	106	106	107	107	107	107	108	108	108	108	108	108	108

AZIMUTH	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235
OFF-AXIS	32.9	32.7	33.2	34.3	36.0	38.3	40.9	43.9	47.1	50.6	54.3	58.1	62.0	66.0	70.0	74.1	78.3	82.5	86.7	90.9	95.1	99.3	103.4	107.6
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-5.9	-5.9	-6.0	-6.4	-6.9	-7.6	-8.3	-9.1	-9.8	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	199	200	199	196	193	189	184	179	174	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173
MODE 2																								
0.0 DEG	108	108	108	108	108	108	108	108	108	107	107	107	107	107	106	106	106	105	105	105	105	105	105	105

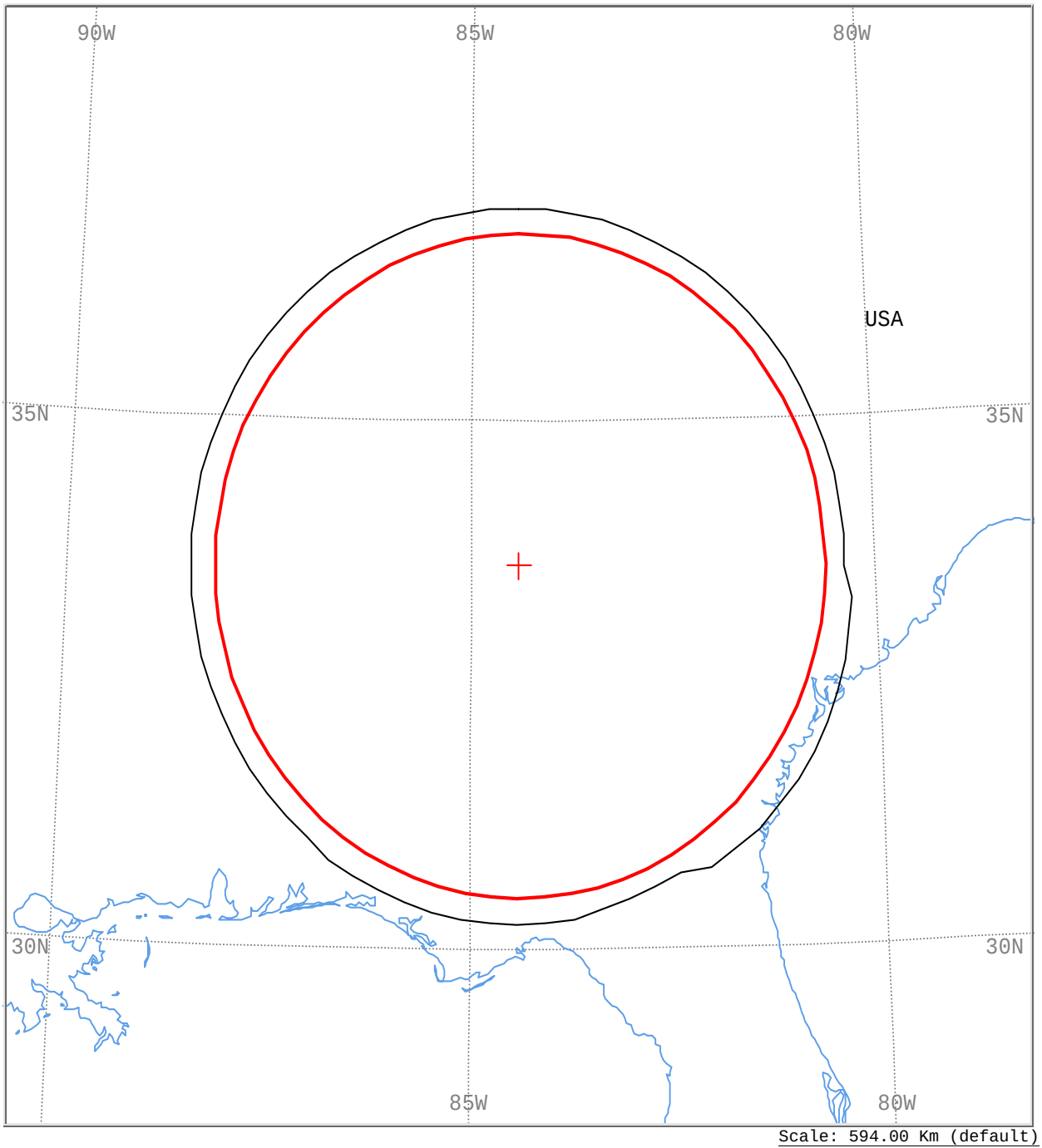
AZIMUTH	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355
OFF-AXIS	111.7	115.7	119.7	123.5	127.3	130.9	134.2	137.4	140.2	142.7	144.7	146.2	147.1	147.3	146.8	145.7	144.0	141.7	139.1	136.1	132.9	129.4	125.7	121.9
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173
MODE 2																								
0.0 DEG	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105

PROBABLY AFFECTED COUNTRIES:

Diagram 2: 2.1_TABLE8. RECEIVING GSO ES in FIXED-SATELLITE SERVICE W.R.T. TRANSMITTING TERRESTRIAL STATIONS. TS: fixed, mobile

Notice ID: 1
Administration/Geographical area: USA/USA
Satellite orbital position: -45.00
Frequency band: 3838.20-3841.30 MHz

Earth station name: MEVAIII-ATLANTA
Earth station position: 084W254033N3821
Satellite name: USASAT-60I



Scale: 594.00 Km (default)

ES position
Main Mode1
Main Mode2

Diagram 2: 2.1_TABLE8. RECEIVING GSO ES in FIXED-SATELLITE SERVICE W.R.T. TRANSMITTING TERRESTRIAL STATIONS. TS: fixed, mobile

NOTICE ID: 1 EARTH STATION NAME: MEVAIII-ATLANTA EARTH STATION POSITION: 084W254033N3821 PHASE: D
ADM/GEO_AREA: USA/USA RAIN CLIMATICAL ZONE: M
SATELLITE NAME: USASAT-60I SATELLITE ORBITAL POSITION: -45.00 DEG
ANTENNA AZIMUTH: 123.97 DEG ANTENNA ELEVATION: 32.72 DEG
FREQUENCY BAND: 3838.20-3841.30 MHZ ASSIGNED FREQUENCY: 3839.75 MHZ PERCENTAGE OF TIME: 0.0017 %
MAXIMUM ANTENNA GAIN: 42.1 DBI MAXIMUM POWER DENSITY: - DBW/HZ NOISE TEMPERATURE: 400.0 K
ANTENNA PATTERN: APEREC015V01
2.1_TABLE8 Model: PLM_DUCTING

TRANSMISSION LOSS MODE 1: 198.9 DB (DOES NOT INCLUDE HOR. CORR. AND ANT. GAIN)
TRANSMISSION LOSS MODE 2: 156.9 DB

AZIMUTH	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115
OFF-AXIS	118.0	114.0	110.0	105.9	101.7	97.5	93.3	89.1	84.9	80.7	76.6	72.4	68.3	64.3	60.3	56.5	52.7	49.1	45.8	42.6	39.8	37.3	35.3	33.8
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.4	-5.6	-4.8	-4.1	-3.5	-3.1
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375	384	386	389	391	393
MODE 2																								
0.0 DEG	348	348	349	349	349	349	350	350	350	351	351	351	351	352	352	352	352	352	353	353	353	353	353	353

AZIMUTH	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235
OFF-AXIS	32.9	32.7	33.2	34.3	36.0	38.3	40.9	43.9	47.1	50.6	54.3	58.1	62.0	66.0	70.0	74.1	78.3	82.5	86.7	90.9	95.1	99.3	103.4	107.6
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-2.8	-2.7	-2.9	-3.2	-3.8	-4.4	-5.1	-5.9	-6.7	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	393	394	393	392	390	388	375	375	375	375	379	379	379	379	379	379	379	379	379	379	375	375	375	375
MODE 2																								
0.0 DEG	353	353	353	353	353	353	353	353	353	352	352	352	352	351	351	351	351	350	350	350	350	349	349	349

AZIMUTH	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355
OFF-AXIS	111.7	115.7	119.7	123.5	127.3	130.9	134.2	137.4	140.2	142.7	144.7	146.2	147.1	147.3	146.8	145.7	144.0	141.7	139.1	136.1	132.9	129.4	125.7	121.9
HOR.ELEV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOR.CORR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANT.GAIN	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9
COORDINATION DISTANCE (KM)																								
MODE 1																								
0.0 DB	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375
MODE 2																								
0.0 DEG	348	348	348	348	348	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	348	348

PROBABLY AFFECTED COUNTRIES:

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APPENDIX C
MEVA III TMG TERMS OF REFERENCE

1. Background

The MEVA Technical Management Group (TMG) originated from the MEVA Informal Working Group (1998), as a standing group to address issues concerning the MEVA Network. The MEVA TMG was formally established in accordance to Conclusion 7/17 of the Seventh Meeting of the MEVA Network (MEVA/7) (Grand Cayman, Cayman Islands 15-17 May 2000).

2. Terms of Reference

In order to address the MEVA Network issues, the following activities are to be developed by the TMG:

a) Review the current status of the Network (maintenance and reporting procedures, technical personnel involved, spare parts, tools for monitoring the Network status, identify common network points of failure, etc.) and submit recommendations;

b) Assist the MEVA Members in the coordination and technical solutions of the problems presented in the operation and implementation of the AFS Services and the optimum frequency usage of the MEVA network. Likewise, to study and recommend measures to improve the operation and implementation fulfillment;

c) Study and propose to the MEVA Members intra and inter-regional coordination for the MEVA Network connectivity with other regional and domestic digital communications networks of the CAR,NAM and SAM Regions;

d) Study and assist the MEVA Members in measures of a technical character, in order to facilitate the operational benefits foreseen in the ICAO Aviation System Block upgrades (ASBU), transition of the MEVA Network towards the ATN infrastructure and its air-ground and ground-ground subnetworks of the air navigation services, implementation requirements from GREPECAS Conclusions and Recommendations, Implementation items from the NAM/CAR Implementation Groups, ICAO SARPs and technical guidance and the MEVA Members expectations; and

e) Inform and advise the MEVA Network Coordination, ICAO, if a major failure or network concern that affects the entire network occurs or may occur or an event that doesn´t allow achieving the Network Service level agreement, recommending solutions for its recovery and actions by the MEVA Network Service Provider.

3. Work Programme

Attached

4. Working Methods

a) TMG work programme should present their activities in terms of objectives, responsible and deliverables. Further details can be provided in the form of Work Breakdown Schedule (WBS);

b) TMG will avoid duplication of work and maintain close coordination among the existing entities (like the Air Navigation Implementation Technical Group-ANI/WG), to optimize the use of available resources and experience;

c) TMG may designate, as necessary, ad-hoc groups or task forces to work on specific topics and activities; all tasks and activities should be clearly defined by time and deliverables;

d) TMG should coordinate and advance its works as follows to maximize efficiency and reduce costs:

- conduct work via electronic written correspondence :
- conduct work via phone and teleconference calls; and
- hold meetings when necessary and based on the work programme activities;

e) TMG will report the progress of assigned tasks to the Meetings of Directors of Civil Aviation (DCA) of the Central Caribbean and other DCAs as required.

5. Membership

MEVA Members: Aruba, Bahamas (Nassau and Freeport), Cayman Islands, Cuba, Curacao, Dominican Republic, Jamaica, Haiti, Mexico, Panama, Sint Maarten, United States (Atlanta, Miami, Puerto Rico) and COCESNA.

The REDDIG Administration representing Colombia and Venezuela are participants / users of the MEVA Network.

ICAO will act as the MEVA Network Coordinator and as technical adviser to the TMG.

3. Rapporteur

Mrs. Dulce M. Roses (United States).

MEVA TMG Work Programme
Revised: MEVA TMG/29 11 December 2014

No.	Activities	Objectives	responsible	deliverables
1	To assist the MEVA Members in coordination for the solutions to problems presented in this operation, and in the implementation of services and frequency management matters.	Keep MEVA SLA levels	TMG	MEVA assistance
2	To study and implement technical/operational measures that may be agreed upon to improve the operation and implementation of MEVA Network services, and that do not impact significant cost, investments and objectives of the Network.	Satisfactory operation and service levels	TMG	Network improvements implementation
3	Keep MEVA Members aware of the status of the MEVA Network performance and conditions of operation.	MEVA Network awareness	TMG	• Reliable MEVA Network website • Network Performance revision
4	Maintain valid and up-to-date MEVA Network Contingency Procedures, taking into consideration the contingency plans of each MEVA Member and of the Service Provider and in keeping with the CAR Region General Contingency Plan.	Readiness for contingencies	TMG	MEVA Contingency Procedures
5	To assist the MEVA Members, in finishing the data and voice circuits implementation, according to the requirements shown in the ANP CAR/SAM, GREPECAS and ANIWG/NACC/WG.	Fulfill Air Navigation requirements	Taskforces- Adhoc Groups	Data and voice circuit implementation

No.	Activities	Objectives	responsible	deliverables
6	To study and propose solutions for AFS connectivity of the MEVA Network with other regional and domestic NAM/CAR/SAM networks.	Fulfill Air Navigation requirements	Taskforces- Adhoc Groups	Data and voice circuit implementation
7	To review the RFP and the terms of the Services Agreement, based on the new ICAO requirements for the transitioning towards the ATN, as well as on the experience achieved, with the purpose of using them in a new Services Agreement for the MEVA Network.	Network improvements	Taskforces	Effective and efficient MEVA III Transition Process
8	Keep and validate with the MEVA Network Service Provider a procedural handbook on management, operation and maintenance of the MEVA Network telecommunication circuits.	Ensure proper MEVA Network maintenance and operation	TMG	Maintenance Procedural Handbook/Manual

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APPENDIX D
TERMS OF REFERENCE

MEVA III NETWORK IMPLEMENTATION *GO-TEAM*
ICAO REGIONAL TECHNICAL COOPERATION PROJECT — *"CAR REGION IMPLEMENTATION OF THE PERFORMANCE BASED AIR NAVIGATION SYSTEM "*
(RLA/09/801)

1. References

The *Go-Team* consists of subject matter experts selected among Project Member States and led by the ICAO NACC Regional Office. The purpose is to provide States with assistance required for effective MEVA III Network implementation that is aligned with regional air navigation and safety priorities contained in the NAM/CAR Regional Performance Based Air Navigation Implementation Plan (RPBANIP) under the following sub-projects:

Sub-Project 1.	*Implement a CAR Region PBN Airspace Concept*
Sub-Project 2.	*Implement Regional Air Traffic Flow Management (ATFM)*
Sub-Project 3.	*Implement Flexible Use Airspace (FUA)*
Sub-Project 4.	*Enhance ATS situational awareness and improve operational efficiency of ATS Unit(s)*
Sub-Project 5.	*Enhance Aerodrome Operations Capacity and Efficiency*
Sub-Project 6.	*Improve Regional Safety*
Sub-Project 7.	*Improve Search and Rescue System*

The *Go-Team* initiative was approved by the Third Steering Committee Meeting (SCM/3) held in Trinidad and Tobago in April 2014.

The *Go-Team* will provide Project Member States with technical assistance to meet the regional goals as agreed in the *Port-of-Spain Declaration* through the following:

- Development of MEVA III Network implementation gap analysis
- Assistance to [State] with development of an action plan for effective MEVA III Network implementation
- Ensure that the implementation of the MEVA III node in [State] is coherent and compatible with the whole Network performance and implementation
- Review that Factory Acceptance Tests (FATs) and Site Survey results are properly consider in the Site Acceptance Tests (SATs) and reflected as improvements to the MEVA III node performance
- Verify that planned circuits and services are implemented
- Validate that the [State] MEVA III node configuration is properly implemented and operating
- Review that as-built diagrams and other related documents are considered in the SAT
- Participate with [State] to technically assist and support the SAT

2. ***Composition of the MEVA III Network Project Go-Team for [State]***

- The *Go-Team* will be led by an ICAO NACC Regional Officer
- The *Go-Team* will be composed of subject matter experts from Project Member States selected by the ICAO NACC Regional Office
- The *Go-Team* mission cost will be covered by the Regional Project
- Other Project Member States could send additional specialists as observers, as long as all travel and daily subsistence allowance (DSA) costs are covered by such State, and upon [Receiving State] approval
- The selected *Go-Team* experts shall comply with the required background for the mission
- Specialists shall agree and sign a confidentiality agreement regarding the information observed and discussed during and after the *Go-Team* mission
- The mission duration will be (3) days, as determined by the ICAO NACC Regional Office

3. ***State Responsibilities***

- The State shall designate a point-of-contact for *Go-Team* coordination, as well as personnel in charge of MEVA III Network implementation
- Provide the required information for the gap analysis development
- Facilitate access and necessary resources for the achievement of the *Go-Team* mission objectives
- Develop and comply with the Action Plan in accordance with the MEVA III Network implementation *Go-Team* recommendations

4. ***General Work Programme***

On-site Activities:

- Initial meeting to present *Go-Team* mission objectives to the [State] Civil Aviation Authority
- Assessment of information for MEVA III Network implementation in [State], as appropriate
- Conduct other related activities for MEVA III Network implementation in [State]
- Debriefing meeting to inform the [State] Civil Aviation Authority on the *Go-Team* mission outcomes

Follow-Up:

- The ICAO NACC Regional Office will MEVA III Network implementation in [State] through the regional implementation groups (ANI/WG, NACC/WG, etc.) as per the approved Action Plan

5. Deliverables

- Action Plan for MEVA III Network implementation prepared by [State] with *Go-Team* assistance
- Mission report on MEVA III Network implementation in [State] prepared by the *Go-Team*

6. Proposed Go-Team Membership

MEVA III Network Implementation *Go-Team* Members	**State / Territory / International Organization**	**Position**	**E-mail Address**
Insert Regional Officer name (Team Leader)	ICAO	Insert position	***@icao.int
Insert name	Insert name of Administration providing expert	Insert position	Insert e-mail
Insert name	Insert name of Administration providing expert	Insert position	Insert e-mail

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APPENDIX E

TENTATIVE SCHEDULE FOR MEVA III *GO-TEAM MISSIONS*
HORARIO TENTATIVO PARA LAS MISIONES GO-TEAM DEL MEVA III
Based on MEVA III Implementation schedule 5.8
Basado en el programa de implementación 5.8 del MEVA III

MEVA III SAT Dates (New schedule - Dec 2014)	**Implementation *Go-Teams* Member- MEVA III:**	**Mission Dates (effective days)**
Atlanta/ 13-02-15		
Teleport/ 28-01-15		
Miami FAA/ 06-02-15		
Jamaica /12-03-15	COCESNA (Team Leader)	11-Mar – 13-Mar
	Dom. Rep.	
	Bahamas	
Cuba/19-02-15	ICAO Officer (Team Leader)	18-Feb – 20-Feb
	Haiti	
	Mexico	
Dominican Republic/05-03-15	Cuba (Team Leader)	04-Mar – 06-Mar
	Jamaica	
	Curacao	
Haiti/ 05-03-15	ICAO Officer (Team Leader)	04-Mar – 06-Mar
	Mexico	
Curacao/ 12-03-15	ICAO Officer (Team Leader)	11-Mar – 13-Mar
	Haiti	
COCESNA/ 19-03-15	Dom. Rep (Team Leader)	18-Mar – 20 Mar
	Jamaica	
Bahamas (Nassau)/ 05-03-15	Curacao. (Team Leader)	04-Mar – 06 Mar
	COCESNA	
Mexico/ 19-03-15	ICAO Officer (Team Leader)	18-Mar – 20 Mar
	Cuba	
	Bahamas	

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APPENDIX F

MEVA TECHNICAL MANAGEMENT GROUP (TMG) MEETING ROTATIONAL SCHEDULE

a) The following meeting rotational schedule was developed and approved by the MEVA Members during the MEVA TMG/29 Meeting with conclusion MEVA TMG/29/19;

b) the participation of ICAO is to be funded by the hosting MEVA member.

c) any other MEVA Member and/or MEVA III Service Provider normally invited to participate in the MEVA TMG meetings may at any time offer to host a meeting;

d) should a MEVA Member be unable to host a particular TMG meeting as per the schedule, it may exchange positions with another MEVA Member through bilateral discussions and the ICAO NACC Regional Office should be informed of the change at the latest six months before the convening of the meeting;

e) should a MEVA Member be unable to host a particular TMG meeting as per the schedule and not have exchanged positions in the programme with another MEVA Member, the ICAO NACC Regional Office should be advised at least six months before the convening of the meeting, where upon the next State on the list should take on the responsibility of hosting the meeting; and

f) Meeting Host Rotational schedule:

YEAR	STATES OR GROUP OF TERRITORIES
2014	MEVA III Service Provider (Miami, United States - MEVA TMG/28)
2014	ICAO NACC Office (Mexico City, Mexico - MEVA TMG/29)
2015	Aruba (Oranjestad- MEVA TMG/30)
2016	Jamaica (MEVA TMG/31)
2017	Cuba (MEVA TMG/32)
2018	Curacao (MEVA TMG/33)
2019	United States (MEVA TMG/34)

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