International Civil Aviation Organization
North American, Central American and Caribbean Office

INFORMATION PAPER

Thirty second MEVA Technical Management Group Meeting (MEVA/TMG/32)
Havana, Cuba, 10 to 12 May 2017

Agenda Item 4:   Network Interconnection Activities and New Circuits
                        4.4   Requirement for new MEVA III circuits/services

A SIMPLE WAY TO VERIFY LOCALLY SKYWAN AND LNB

(Presented by Cuba)

EXECUTIVE SUMMARY	
A procedure suggestion to verify the RF segment of a MEVA III node.	
Strategic Objectives:	• Safety • Air Navigation Capacity and Efficiency • Security & Facilitation • Economic Development of Air Transport • Environmental Protection
References:	• Skywan MIB ,MEVAIII webpage, Satfinder

1.   Introduction

1.1   To have references in the ordinary work of the nodes is convenient for not depend just of external help to know if the problems are or not in our site, or is external issue.

1.2   At the MEVA nodes are some different units that might cause the same symptom, for example if we lose a green led at the skywan this may be the LNB, the LNB external power supply, the BUC, the skywan , IF cables or the antenna feeder.

1.3   The use of a computer with a MIB browser and an inexpensive satfinder can help to trace that kind of problems.

2.   Discussion

2.1   At TMG 31 Frequentis gave the MIB of the skywan and the netperformer. In the instruments supply options were the satfinder as an option and we have token it.

2.2   With these tools we can take some independent references to insulate some of the problems at the node.
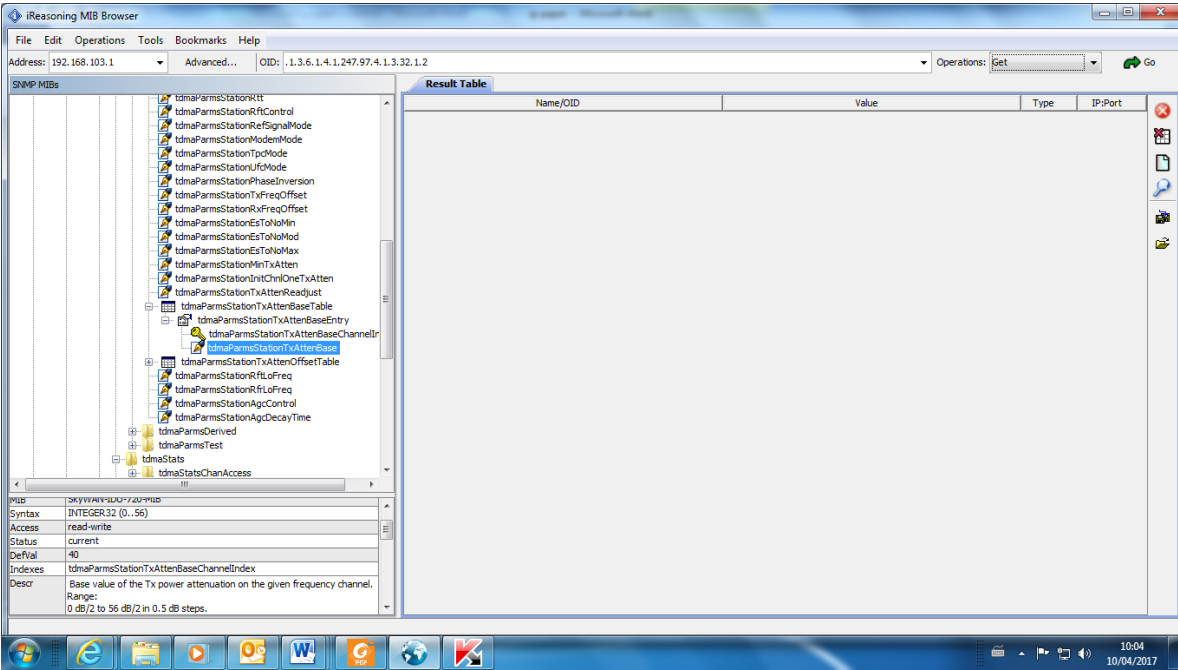
2.3   In the Cuban case we are using the free MIB browser ireasoning to get some useful references. With a notebook set at the range of the skywan in our case 192.168.103.xx connected to the switch we can have access to some para meters as references. As the MIB is large and complicate to understand, we will just take the most important parameters that are reflected at the webpage, for example Tx attenuation at the webpage is SNMP number:

2.4   If you look the same at the MIB Browser with the MIB loaded we can get the same parameter:

2.5   At the web page the parameter was 8 dB/2, here you have a local way to get it. When this parameter goes lo lows number that means that something is wrong with the transmission path. And we can with the get command have the same data locally. We did the same with demodulate channel input power :
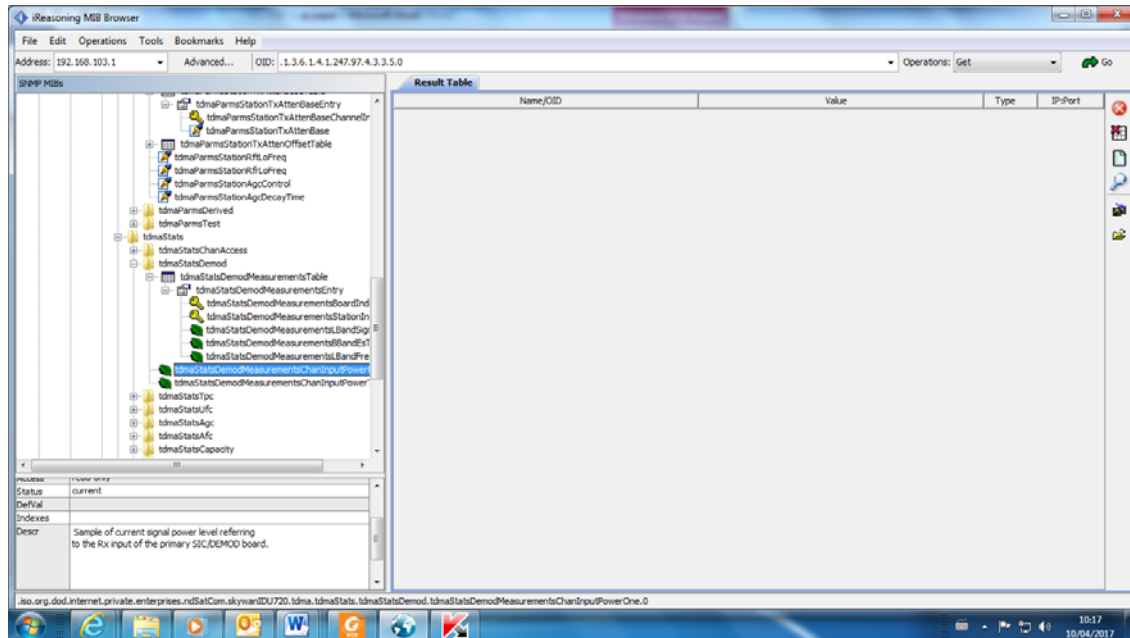
2.6   That is the way to have a locally Rx reference to watch the input power, if goes low we need to look at LNB, IF Rx cable or antenna feeder.

2.7   When the operation or/and diagnostic leds on the Skywans are not solid green you may had problems at Rx or Tx. If you have an independent Rx reference in the RF track is easy to detect where the problem is. One inexpensive way to have this reference is with a Satfinder. For this purpose we have used the Satfinder WS 6922 that was supplied with the tools and instruments recommended in the contract. As the Satfinder is directed to locate a TV channel we must set it to receive one or more TV channels from the IS 14 S. To do that we must set the appropriate database. We load the Atlantic database through the USB Satfinder port. Then we select the IS 14 satellite from the list and put off the power supply and the 25 KHz reference, polarization to vertical at the configuration menu.
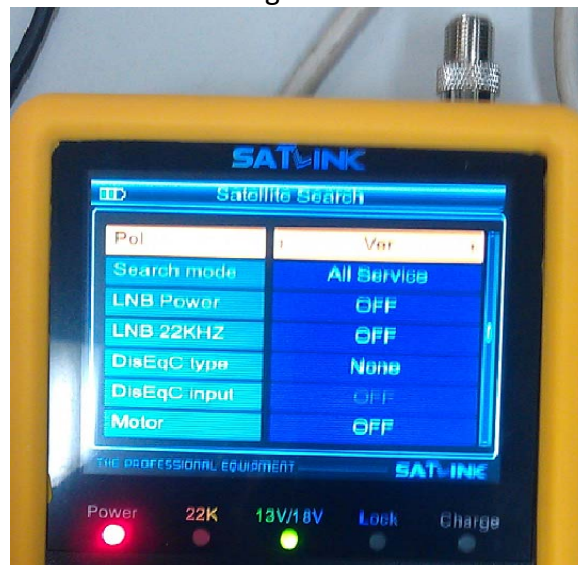
2.8   At the MEVA III Rack we put an N T connector to have a port to insert the Satfinder coax cable.

2.9   Then we take the reference measurement as you can see in the picture:

2.10   This is received from a TV channel (channel 10 on 1S14) then we have a reference of the Rx from the LNB, even if the MEVAIII Net is out.

2.11   If don't receive any signal also can deactivate the power supply of the MEVAIII rack and check again by activating the power provided by the satfinder.

2.12   If we have the same problem, we go to the antenna and do the same with a short cable to know if we have problems at the LNB or if it is at the IF Rx cable.

3.   Conclusions

3.1   The Members are invited to take note of the information contained in this information paper and to share their experience in the work of the MEVAIII net.

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