Trip report NOAA AOC

Date: July 18 to 22

Objective:

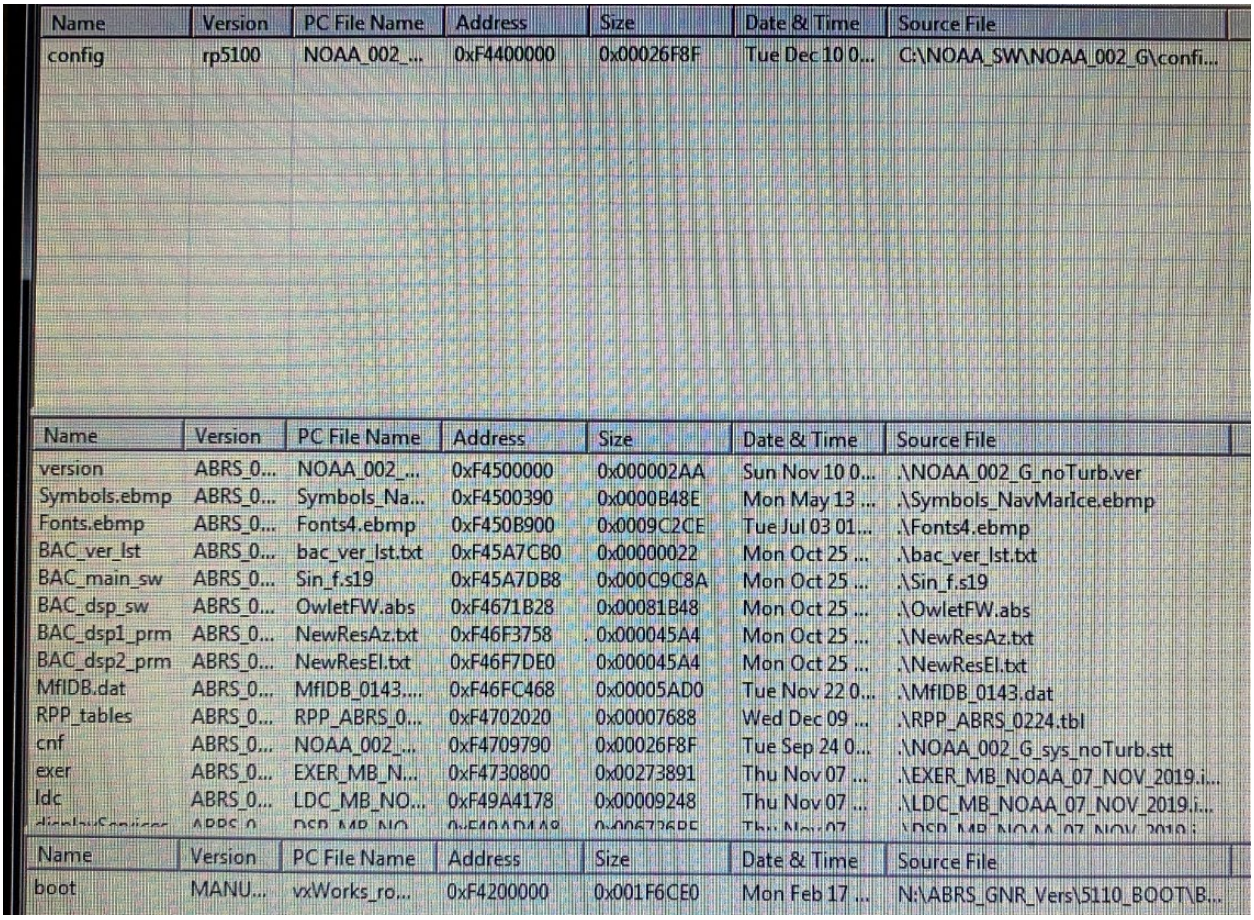
1. Install the latest software drop which should fix radar and CfRadial issues.
2. Review aircraft faults (Moncal, TGTINJ and Noise figure)

Customer observations:

- The faults (BIT) are concerning in that they do not have a path to correct or diagnose.
- The faults can be cleared by swapping boxes
- The FER in the N43 is the electronic box portion of the L3Harris FER, BIT faults are cleared.
- We provide them with the tools (information) so they can be organic in troubleshooting.

Day one: Worked on N43RF sw updates ,

- baseline the software installation
- Loaded new sw (RP(K), MSDC(3.2.3.9) and CF(1.14))
- Leverarm was set to X:255, Y:-7, Z:351 used for tail N42RF and N43RF
    - Edit usr: noaa, password: elta is required
- NAS drive was mapped in and must be active to start the MSDC. To make active go to my computer and select the NAS (removes the “X” from the available drive.



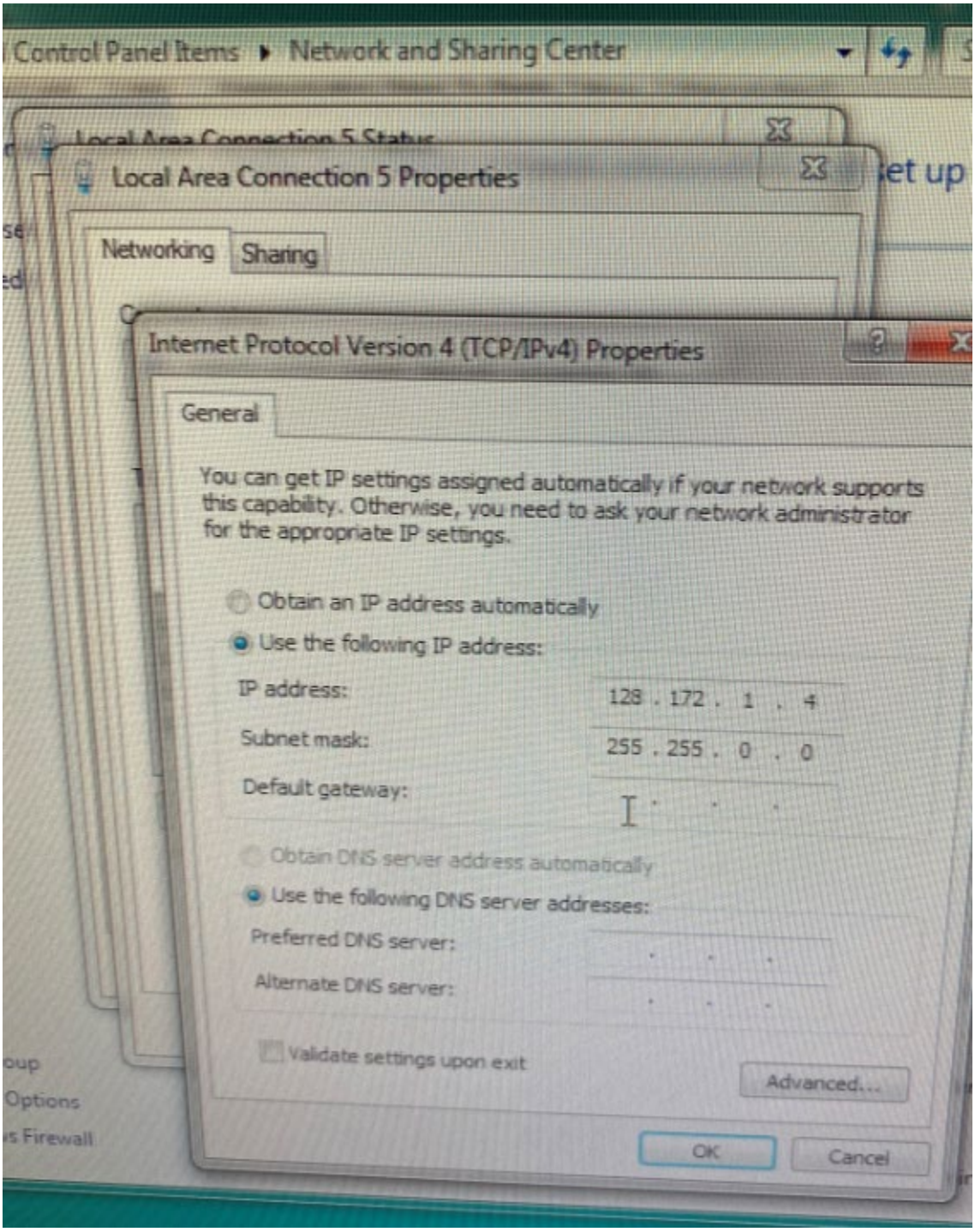
Name	Version	PC File Name	Address	Size	Date & Time	Source File
config	rp5100	NOAA_002_...	0xF4400000	0x00026F8F	Tue Dec 10 0...	C:\NOAA_SW\NOAA_002_G\confi...

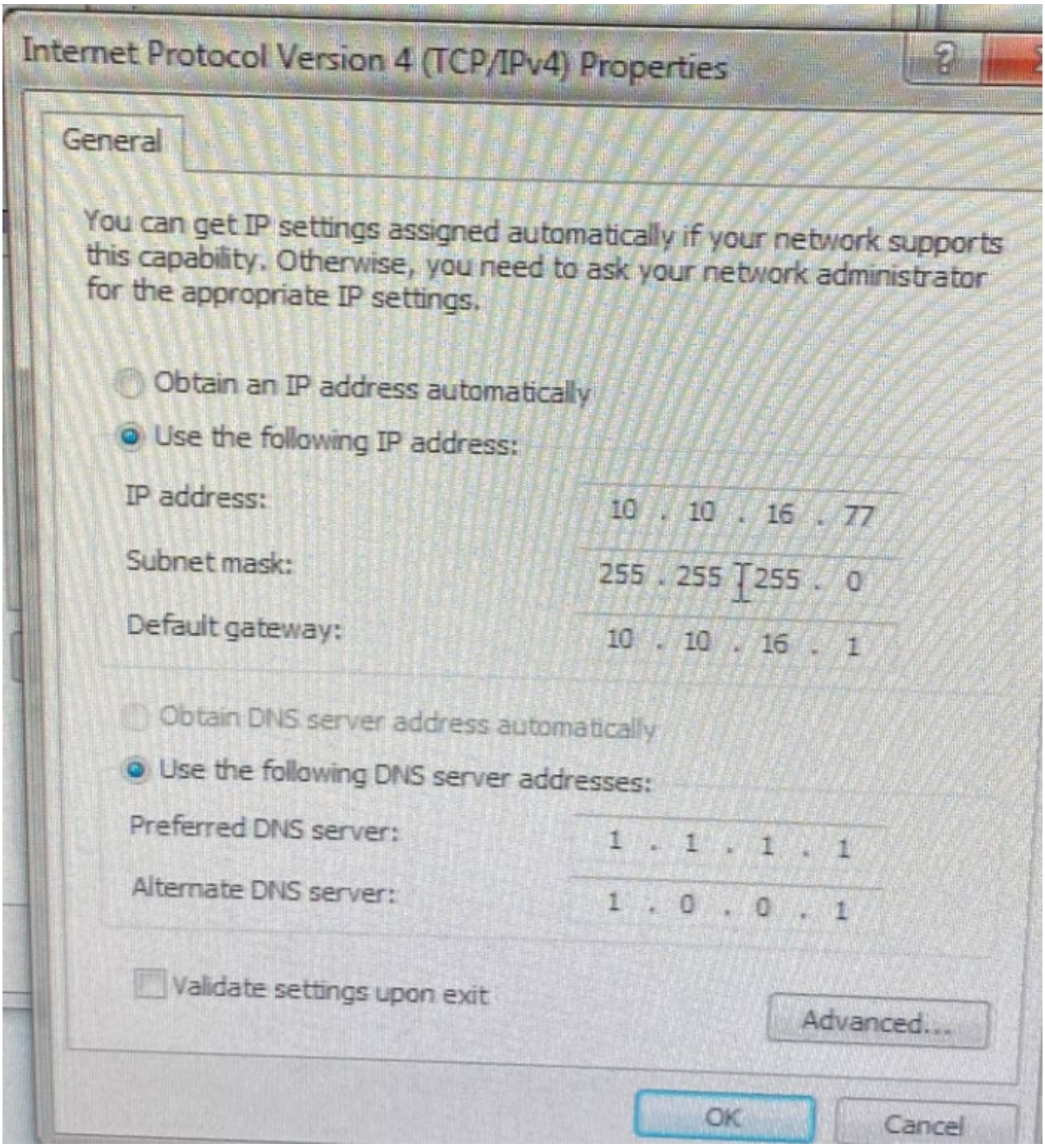
Name	Version	PC File Name	Address	Size	Date & Time	Source File
version	ABRS_0...	NOAA_002_...	0xF4500000	0x000002AA	Sun Nov 10 0...	.\NOAA_002_G_noTurb.ver
Symbols.ebmp	ABRS_0...	Symbols_Na...	0xF4500390	0x0000B48E	Mon May 13 ...	.\Symbols_NavMarIce.ebmp
Fonts.ebmp	ABRS_0...	Fonts4.ebmp	0xF450B900	0x0009C2CE	Tue Jul 03 01...	.\Fonts4.ebmp
BAC_ver_lst	ABRS_0...	bac_ver_lst.txt	0xF45A7CB0	0x00000022	Mon Oct 25 ...	.\bac_ver_lst.txt
BAC_main_sw	ABRS_0...	Sin_f.s19	0xF45A7DB8	0x000C9C8A	Mon Oct 25 ...	.\Sin_f.s19
BAC_dsp_sw	ABRS_0...	OwletFW.abs	0xF4671B28	0x00081B48	Mon Oct 25 ...	.\OwletFW.abs
BAC_dsp1_prm	ABRS_0...	NewResAz.txt	0xF46F3758	0x000045A4	Mon Oct 25 ...	.\NewResAz.txt
BAC_dsp2_prm	ABRS_0...	NewResEl.txt	0xF46F7DE0	0x000045A4	Mon Oct 25 ...	.\NewResEl.txt
MfIDB.dat	ABRS_0...	MfIDB_0143....	0xF46FC468	0x00005AD0	Tue Nov 22 0...	.\MfIDB_0143.dat
RPP_tables	ABRS_0...	RPP_ABRS_0...	0xF4702020	0x00007688	Wed Dec 09 ...	.\RPP_ABRS_0224.tbl
cnf	ABRS_0...	NOAA_002_...	0xF4709790	0x00026F8F	Tue Sep 24 0...	.\NOAA_002_G_sys_noTurb.stt
exer	ABRS_0...	EXER_MB_N...	0xF4730800	0x00273891	Thu Nov 07 ...	.\EXER_MB_NOAA_07_NOV_2019.i...
ldc	ABRS_0...	LDC_MB_NO...	0xF49A4178	0x00009248	Thu Nov 07 ...	.\LDC_MB_NOAA_07_NOV_2019.i...
[illegible]	ABRS_0	DSP_MB_NO	0xF49AD4A8	0x006726BE	Thu Nov 07	.\DSP_MB_NOAA_07_NOV_2019.i...

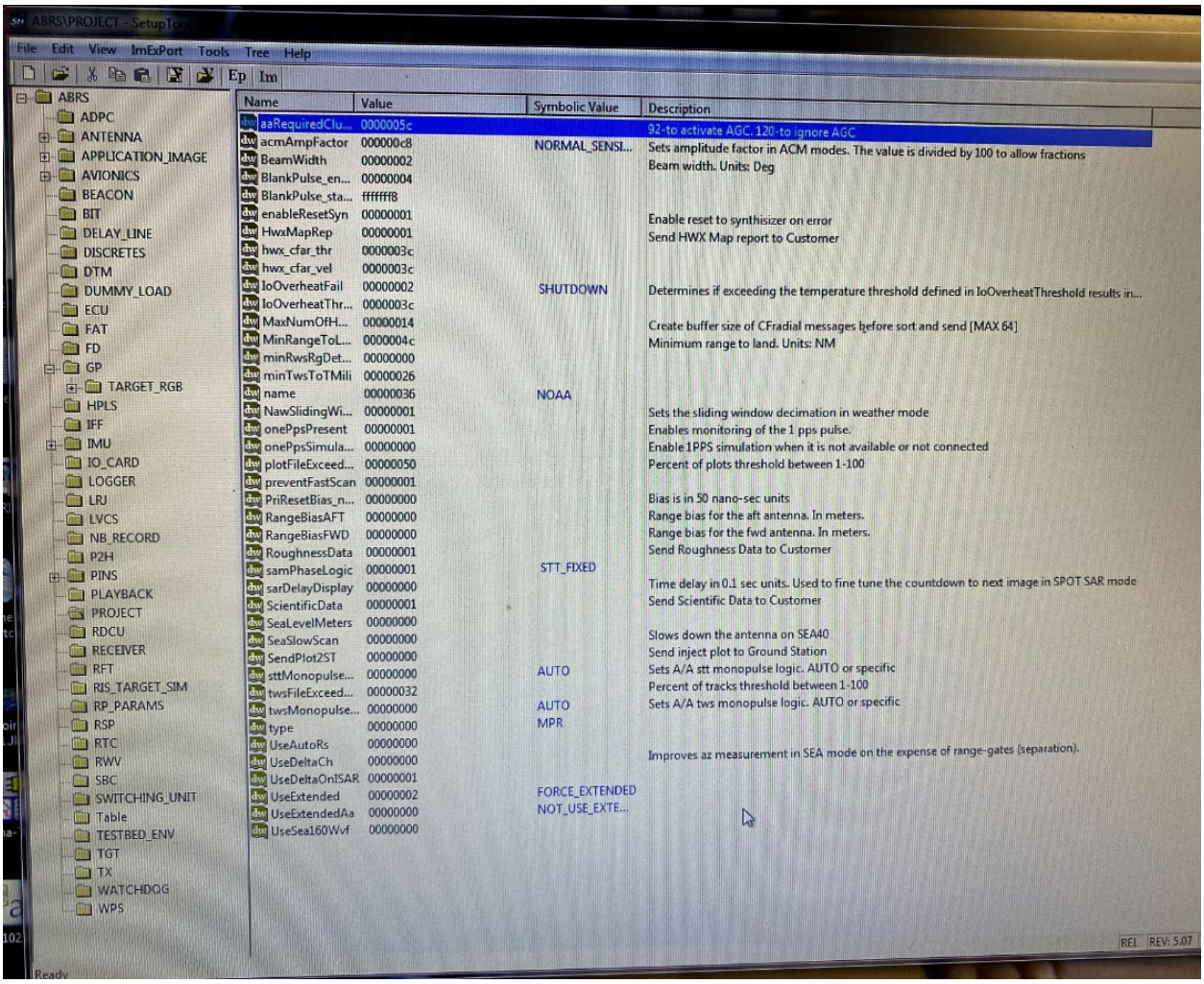
Name	Version	PC File Name	Address	Size	Date & Time	Source File
boot	MANU...	vxWorks_ro...	0xF4200000	0x001F6CE0	Mon Feb 17 ...	N:\ABRS_GNR_Vers\5110_BOOT\B...

-
- 128.172.1.84 list file, Note the Version NOAA_002_G, The .83 has NOAA_002_G_RVP

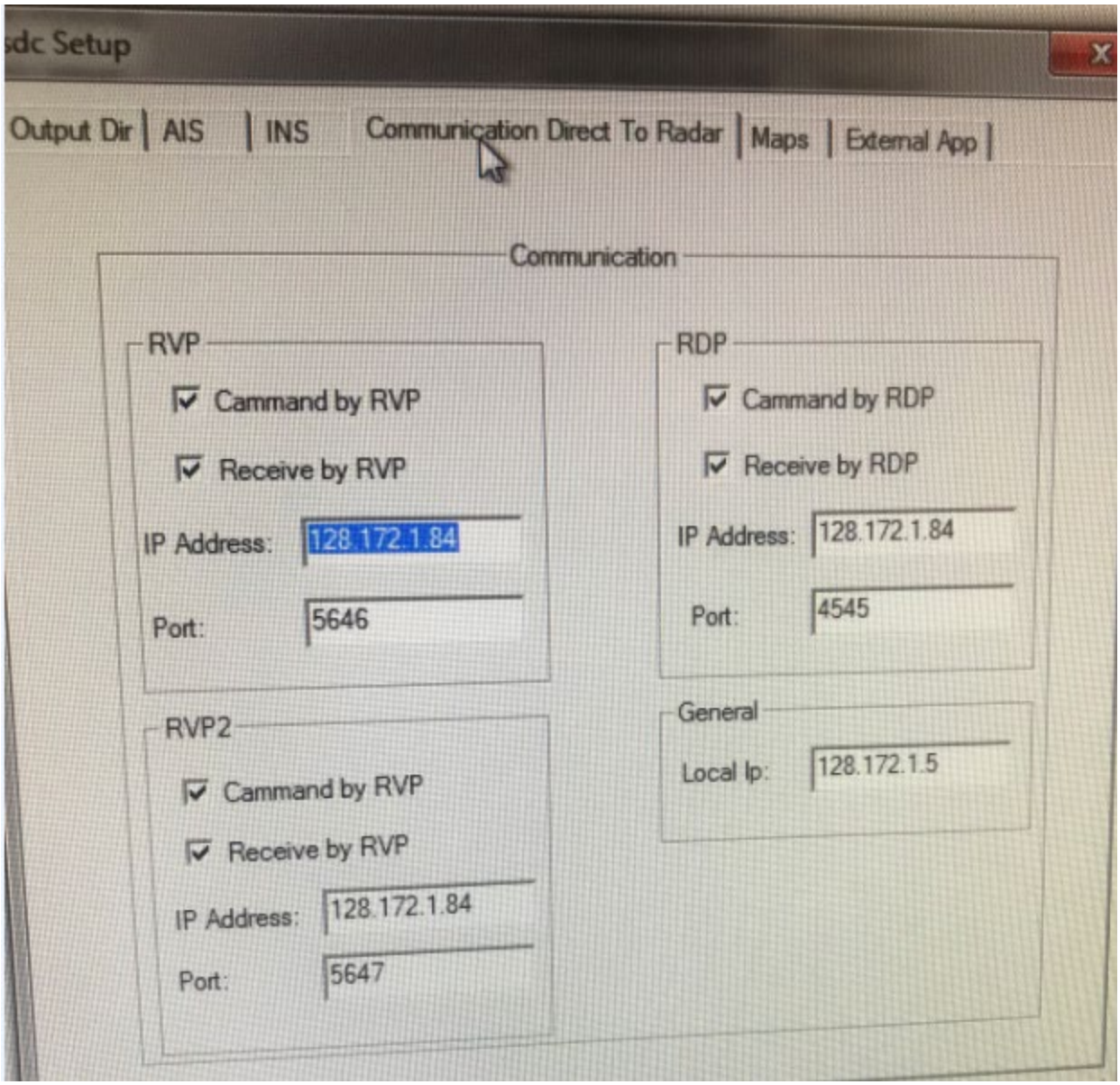
- The rear workstation IP was set to 128.172.1.4 the forward “Flight Director” station was .5



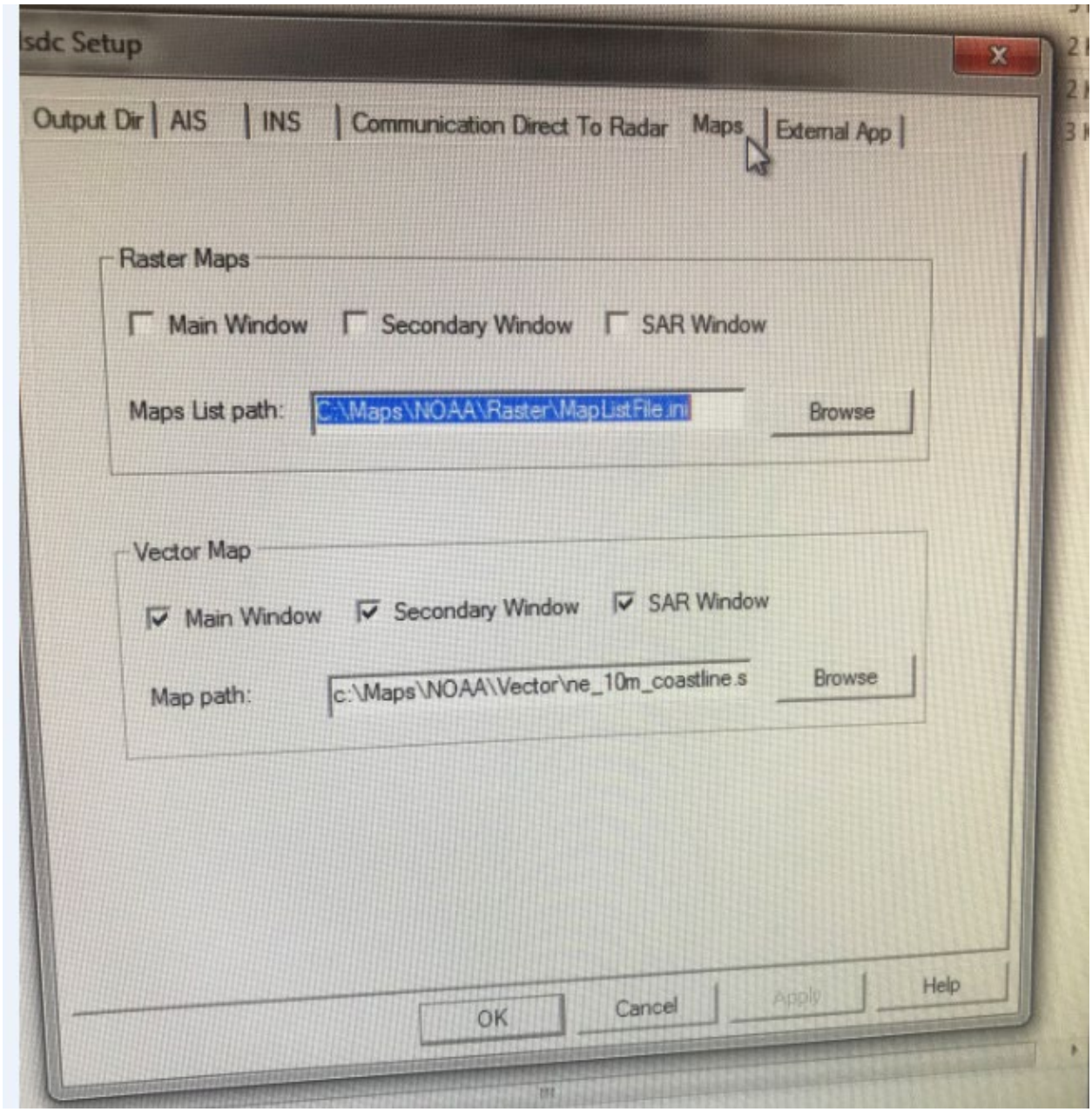
- 
Internet Protocol Version 4 (TCP/IPv4) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address: 10 . 10 . 16 . 77
Subnet mask: 255 . 255 . 255 . 0
Default gateway: 10 . 10 . 16 . 1
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server: 1 . 1 . 1 . 1
Alternate DNS server: 1 . 0 . 0 . 1
Validate settings upon exit
Advanced...
OK
Cancel

- 

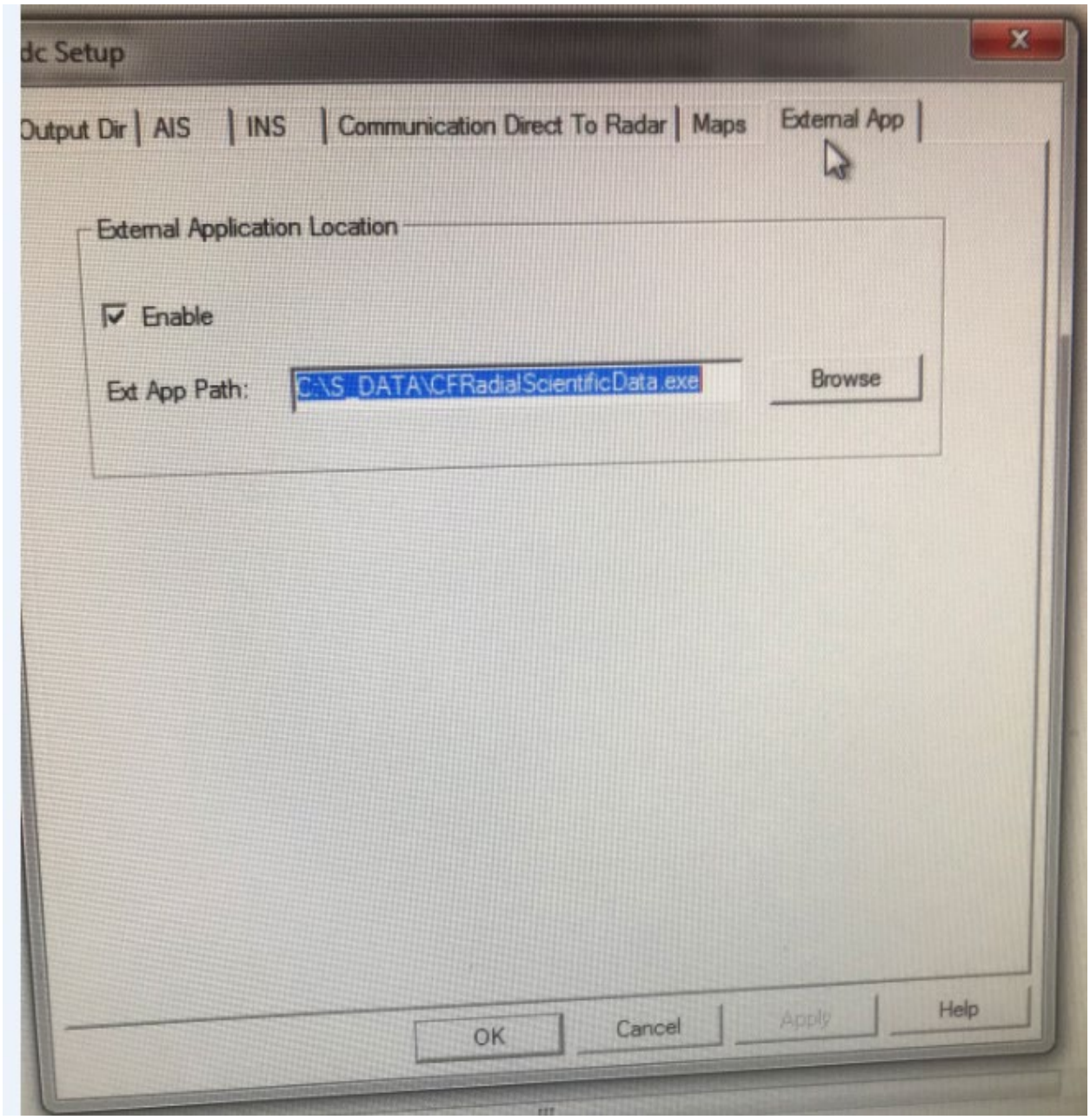
- The Thresholds in the new SW drop “Version K” are low HWX_CFAR_THR should be 3C ,same for velocity

- 

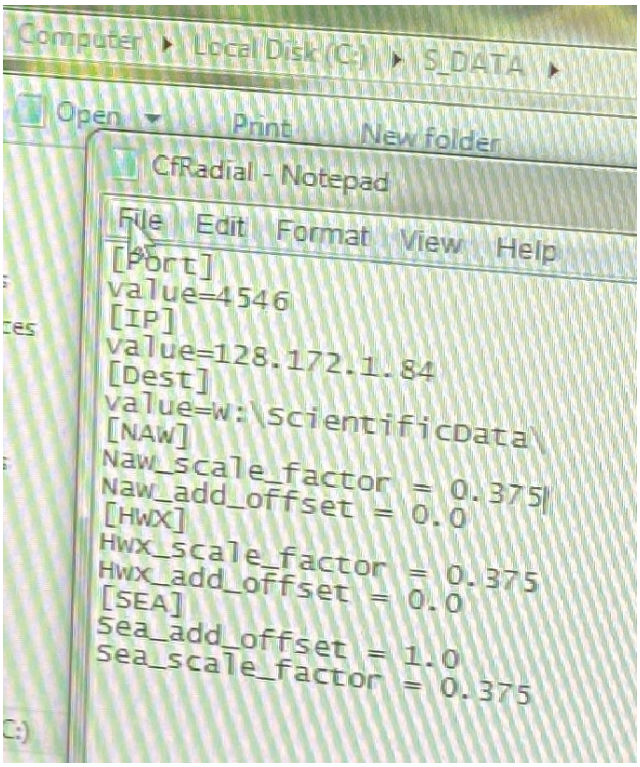
- This is the forward MSDC setup with ".5" rear station on N43 was ".4" also all the checked boxes are not checked for the rear station.

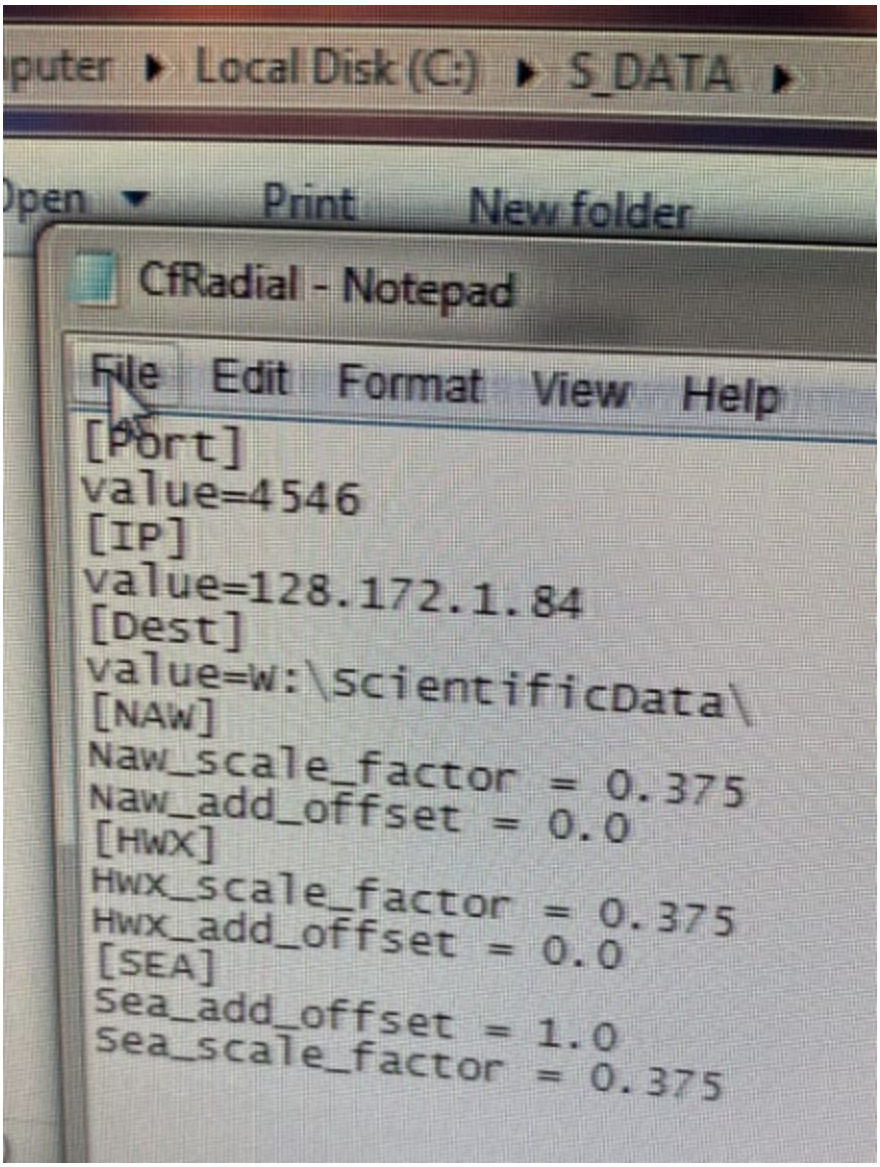


- The Raster is unchecked and the Vector points to the ne_10m_coastline for both forward and rear station



- The path to the S_DATA CfRadial.ini file, Unchecked in the rear station

- 
Computer ▸ Local Disk (C:) ▸ S_DATA ▸
Open
Print
New folder
CfRadial - Notepad
File Edit Format View Help
[Port]
value=4546
[IP]
value=128.172.1.84
[Dest]
value=w:\ScientificData\
[NAW]
Naw_scale_factor = 0.375
Naw_add_offset = 0.0
[HWX]
Hwx_scale_factor = 0.375
Hwx_add_offset = 0.0
[SEA]
Sea_add_offset = 1.0
Sea_scale_factor = 0.375

- 
puter ▸ Local Disk (C:) ▸ S_DATA ▸
Open
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New folder
CfRadial - Notepad
File Edit Format View Help
[Port]
value=4546
[IP]
value=128.172.1.84
[Dest]
value=W:\ScientificData\
[NAW]
Naw_scale_factor = 0.375
Naw_add_offset = 0.0
[HWX]
Hwx_scale_factor = 0.375
Hwx_add_offset = 0.0
[SEA]
Sea_add_offset = 1.0
Sea_scale_factor = 0.375

Day two: Test Fly N43 with new sw

MBIT test numbers were captured and although the tests pass the numbers do not all match with expected “Good” results. The main thing for NOAA is they need to understand which BIT fails impact their ability to run a mission. They have currently been running mission even if the bit fails.

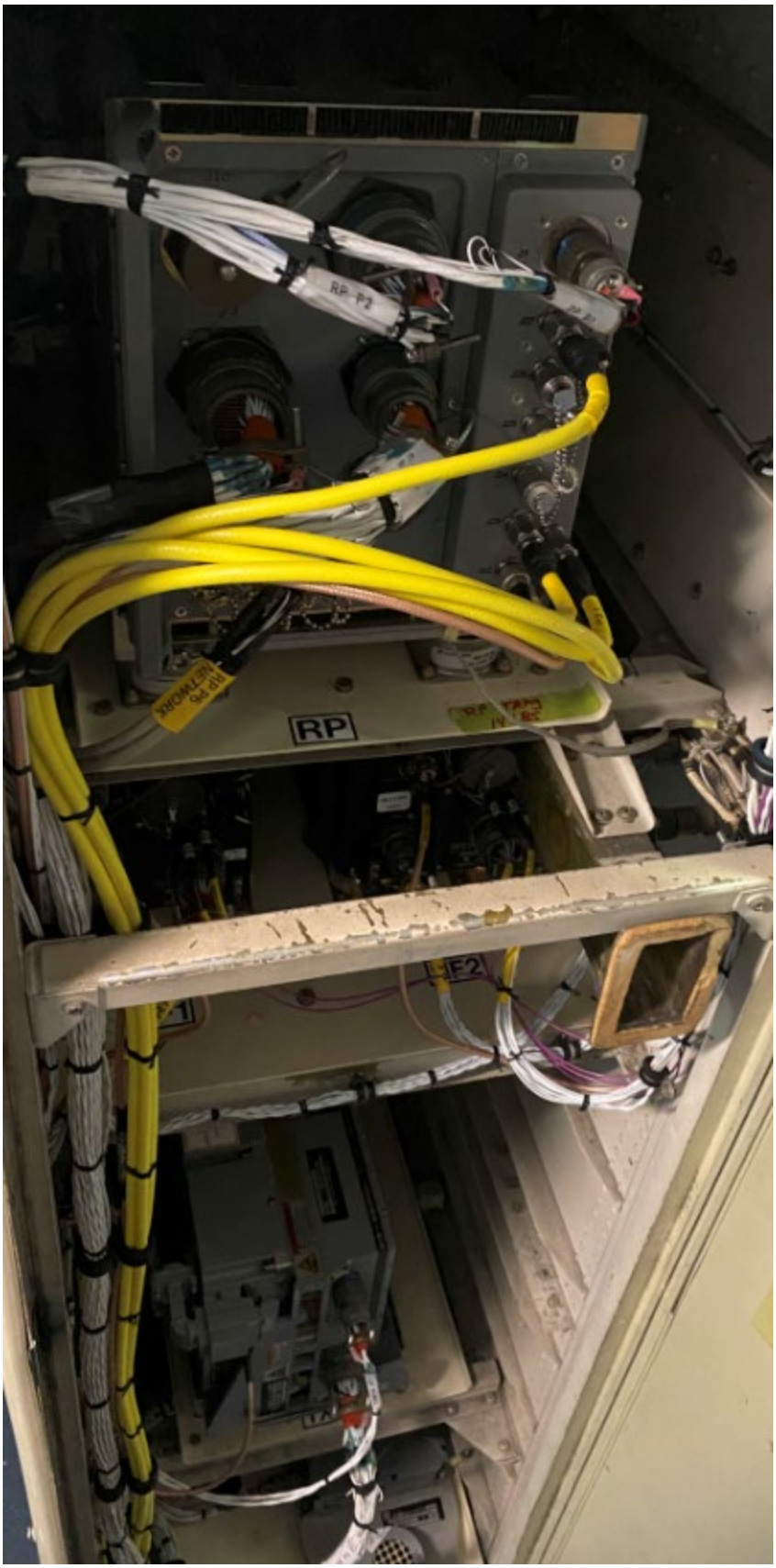
The NF numbers: ch01 and 1: 12-14 and CH2: 8/9 and CH3 0/1

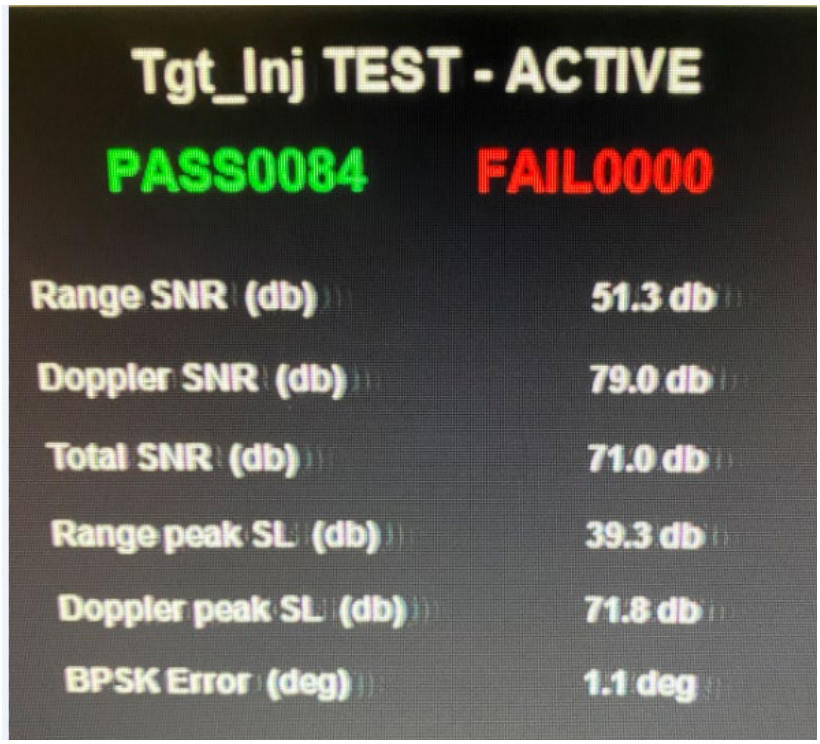
IBIT: INJCal 8.1db and TGTINJ: 71.3db

During the initial part of flight , climbing to alt of 10kft the radar jumped out of NAW and into stby? Not sure what was going on but the screen did flash. When it flashed I noticed the radar in stby. It was around the time the WOW switch was being disengaged by the crew.

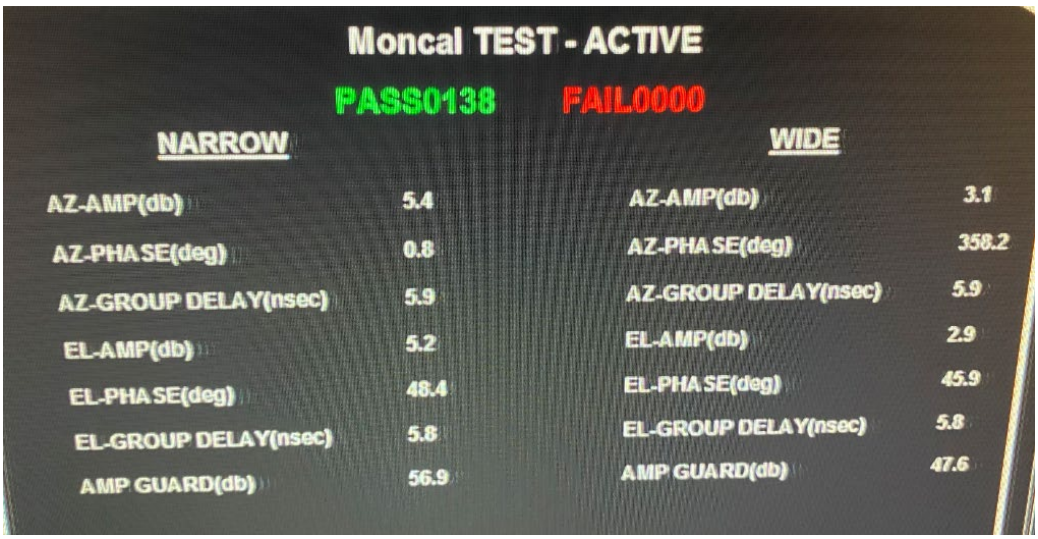
Another note was the Viewer did not present the radar, the master (rear for this flight) switched to SS then back to NAW to “FIX” the issue.

BOX

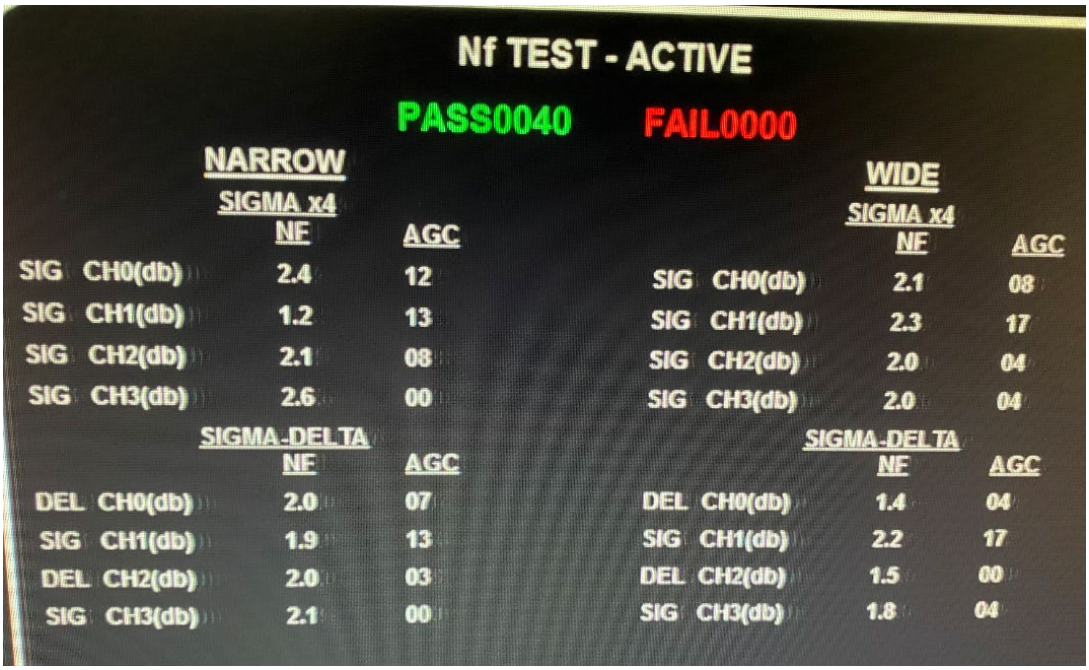

RP
F2


Tgt_Inj TEST - ACTIVE
PASS0084
FAIL0000
Range SNR (db)
51.3 db
Doppler SNR (db)
79.0 db
Total SNR (db)
71.0 db
Range peak SL (db)
39.3 db
Doppler peak SL (db)
71.8 db
BPSK Error (deg)
1.1 deg

MBIT:


Moncal TEST - ACTIVE
PASS0138
FAIL0000
NARROW
AZ-AMP(db)
5.4
AZ-PHASE(deg)
0.8
AZ-GROUP DELAY(nsec)
5.9
EL-AMP(db)
5.2
EL-PHASE(deg)
48.4
EL-GROUP DELAY(nsec)
5.8
AMP GUARD(db)
56.9
WIDE
AZ-AMP(db)
3.1
AZ-PHASE(deg)
358.2
AZ-GROUP DELAY(nsec)
5.9
EL-AMP(db)
2.9
EL-PHASE(deg)
45.9
EL-GROUP DELAY(nsec)
5.8
AMP GUARD(db)
47.6

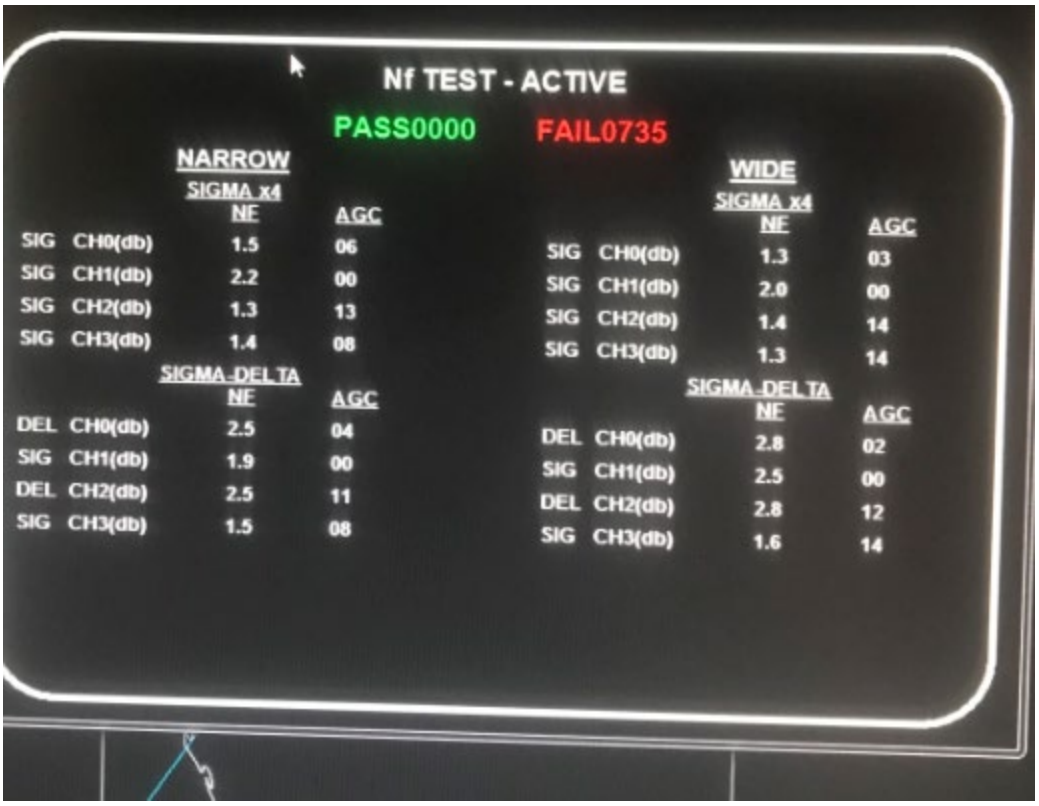
MBIT:



DAY Three: Updated Aircraft N42

N42 is the plane with tgtInj Intermittent and Hard fault with NF, BUT the NF fails do not seem to be impacting the weather mode.

- (TEST DATA capture) NF Fails: AGC CH1 = 0 and CH0 low around 7, NOAA_K_06 MILP file captured MBIT NF, TGTINJ, Moncal and NF again then IBIT



- Cleared after “NEW” RP was installed, TGTINJ still bad