N43RF ERROR SUMMARY
CHECKOUT/TDR FLIGHT

Flight ID: 20130612I1

Sensor or system	Number or Name
INE (for wind derivation)	INE1
Accelerometer	AccZfilterI-GPS.1
Temperature Probe	TTM.1
Dew Point Probe	TDM.2 (EdgeTech)
Altitude (for vertical wind)	AltGPS.1 (RINU PURE GPS)
Static Pressure	PSM.2
Dynamic Pressure	PQM.2
Constants File	n43_xml
Project Directory	/acdata/2013/MET/20130612I1

Notes:

For 1- Hz data only.

There were no data gaps.

Take off was originally delayed for one (1) hour.....17Z to 18Z....waiting for better precipitation targets for the TDR work. Take off was further delayed due to the scientific power inadvertently being dumped offline twice by the flight deck.

Dewpoint sensor #2 (TDM.2...EdgeTech) had erroneous values during the following time frame: 192136Z – 192428Z and 200030Z - 200057Z. For the first time frame, the erroneous data was removed and replaced utilizing direct substitution and referencing dewpoint sensor #1 (TDM.1...Buck) output.
For the second time frame, the erroneous data was removed manually and replaced utilizing statistical techniques referencing dewpoint sensor #1 (TDM.1...Buck) output.
TDM.3 (TDL) dewpoint sensor outputs trended with TDM.1 and TDM.2 outputs, but its respective values fluctuated being higher and lower than TDM.1 and TDM.2 values.

Total temperature sensor #2 (TTM.2) was warmer than TTM.1 throughout the flight but more so above 15000 feet. Both total temperature sensors functioned optimally but TTM.1 was selected for post-flight processing. The average difference between TTM.1 and TTM.2 for the entire flight was -0.38C. However for altitudes at or above 15000 feet the temperature difference was greater than -0.55C.

There were some differences between the two RINU-G blended inertial/GPS altimeter values (AltI-GPS.1/.2) but not as erroneous or erratic as the previous flight. However in post-flight analysis it was decided to select the RINU-G pure GPS #1 (AltGPS.1) altimeter output for post-flight processing.

The scientific IAS was 1.4 m/s higher than the inertial (deck) output. The scientific TAS was 2.15 m/s higher than the inertial (deck) output. These respective differences are consistent with what has been observed in the past.

The differences observed among the fuselage dynamic pressure values of up to 1.0 mb from the previous flight were gone. The cal lab bench re-calibration of those fuselage dynamic pressure sensors corrected those problems.

For takeoff...fuselage static pressure was 1017.6 mb
wingtip static pressure was 1015.9 mb
AVAPS cabin pressure was 1017.8 mb at 1726Z cabin door open

For landing....fuselage static pressure was 1015.5 mb
wingtip static pressure was 1014.0 mb
AVAPS cabin pressure was 1016.2 mb at 2158Z cabin door open

All other instruments worked optimally during the flight.

	Takeoff (1840Z)	**Landing (2144Z)**
Aircraft Static Pressure	1017.6mb	1015.5mb
Corrected Tower Pressure	1016.8mb	1016.1mb

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