S56 Rev 123 Saturn Atm & Rings

12/25/09
S56 Rev 123
(1)

Occ
Rings (In & out) & Atm (egress)
DSS-34, 43 DSS-55, 63

Ops Room: Aseel, David, Essam
First shift (9-4pm) Danny, John
Second shift (4-11pm) Elias, Don
NOPE: Lu 1st shift
Jack
ACE: Bill Mogenson

Pointing models:
No update to 34 pointing
(same model w/ 2.3 mdeg offset in it)
New model at 55

Weather: Rainy

Prdx: 1-way (free space for ingress)

Fgain:

43/63 XR	59	John/Don
43/63 SR	49	John/Don
43/63 XL	35	John/Don
43/63 SL	31	John/Don
34/55 XR	54	Danny/Elias
34/55 KR	54	Danny/Elias

~ 1834 Signals at 34
1845 34 I/L X&Ka
1847 43 I/L X&S
John switched from WVSR1 to WVSR2 for 43 LCP
due to "CIC Enter overflow" msgs
1836 started recording 34
1844 started recording. 43 RCP
1851 started recording 43 LCP

1852 fluctuations at X & Ka due to rain

1930 monopulse enabled

1942 34 weather update .. raining harder than before
wind 8 kph
fluctuating Ka & X due to rain

1949 SNT measurement
43 X 96.95
43 S 24.127
34 X 31.525
34 Ka 125.67 (was 143 for a bit)

1952 SNT disabled except 34 X-band
"previously we could see through ring B .. today completely blind

1958 43 signal power is just 1-2 dB higher than 34

2001 Asked Lu if we should have station conscan

2002 43 enabled conscan for 6 mins to see if

2004 Lu called
Dichoric plate extended (outside feed horn)
to track X & S, so impact of rain on 43 X would
be greater than BWG. BWG has everything under
cutenna (because of droplets accumulating on 43 plate)

2008 43 reported had conscan on for 8 mins 70-m antennas equip are exposed. 34-m in basement

2010 Lu called .. said 1st two cycles good, but last
not good → so clear offsets ⇒ yes

2011 Lu asked 43 to clear offset ⇒ drop 2dB in X

2013 On phone w/ Lu .. told him still have time for another conscan (instead of using old values)

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2013 Lu asked 43 to conscan again for 6 min.

2018 Lu asking station what radii of conscan is (David wants to know in case we're locked up on sidelobe)

⇒ 2.9 mdegs

Asked station if they can change radii

⇒ ~~1mdeg~~ to 5 degree

David wants .01 deg (10 mdeg)

Essam: this is an experiment where every dB counts bec rings are closed..

Asked station if it takes more time to complete cycle if changed radii

⇒ 43 said not sure. they don't usually change that parameter, but don't think so (NOR thinks it will)

2029 43 disabled conscan & kept offsets

2030 43 swings Incipient SOM (Software Operations Manual) does not explain how changing radii would impact period

NOR told 43

2032 On DC01 to halt rcvr & re-acquire (in response to us saying we may be locked up on sidelobe)

203740 34 monopulse disabled & kept offsets

2040 Pc/No

43XR	47.85
43SR	44.062
43XL	34.19
43SL	no signal
34XR	48.47
34KR	45.32

2042 Talked to Essam about manual offsets (David suggested earlier in direction of current offsets but double). ⇒ No .. no time.

2053 Weather update from 43
Overcast & light drizzle
conscan offsets
-9.6 EL

2128 Pc/No (just before entering Ring B)

43 XR	43.91
43 SR	43.96
43 XL	33.75
43 SL	14.31
34 XR	48.39
34 KR	45.72

2127 on DSS6, reconfigure D/L channel in open-loop mode so that RS can see SNT in NMC log

DR# C107202 for 43 X-band pointing
All rcvrs out of lock during rms B
2206 34 back to closed-loop mode in prep for Ring C
220700 34 I/L on X & Ka

2239 Pc/No

43 XR	48.42
43 SR	43.46
43 XL	32.91
43 SL	19.49
34 XR	48.50
34 KR	45.91

2241 34 monopulse enabled ⇒ Pc/No 46.5 (1.6dB jump)
224150 34 DC in open-loop

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230250 SNT measurement

43X 75.463 (maybe some water .. moisture got there) over 7mdeg offsets so that's why opened DE)
435 20.457 expect ~17 Kelvin)

.7 mdeg offset .3 dB
.9 mdeg .. .5-.6 dB down
SNT .. 6 dB

will let antenna people investigate
But pointing model is a little off .. didn't use same model before

1845 — 2305

Ingress
Playback

Egress

NOPE: Jack
ACE: Dave Deedy

63X ADC amplitude not as expected on RSR2A. Asked Don to bring up WVSR2. A little better but still not as expected (Don had problem connecting to WVSR2. Needed password). Brought back RSR2 & decided to stay with it

55Ka ADC amplitude not as expected on RSR1B. Was OK, but then increased: Desired Amp to -6.4 & ADC Amp to -5.4.
Asked Glenn to bring up VSR ⇒ Ka on VSR1B
⇒ Values as expected! first record 015036

0149 SNT Measurement
63X 90.1 ⇒ 83.00
63S 21.6
55X 33.559
55Ka 48.354

015250 Disabled SNT

0154 asked 55 for weather update
Rain stopped
20.4 38NE

0156 Asked NOPE if high SNT expected if rain stopped
⇒ possible.

0200 RSR2 again changes (had wrong values)

021309 55 X-band I/L

022040 55 Ka. I/L

021406 63 S I/L

022219 63 X I/L

0224 Pc/No reading

63 XR	47.06
63 SR	42.87
63 XL	~~18.6~~ 25.54
63 SL	18.69
55 XR	48.19
55 KR	44.28

0312 Rcvrs losing lock as going through ring B

0313 Asked NOPE if we can ask 55 to configure X in open-loop

031340 Nope asking 55 to configure X-band in open-loop mode

0354 Asked NOPE to let 55 be ready for X-band

0356 55 has Xrcvr 1/L but in & out

035624 63 S-band 1/L

035740 55 has solid lock on X & Ka

035755 63 has lock on X-band

0439 Pc/No

63 XR	48.01
63 SR	43.72
63 XL	27.00
63 SL	14.29
55 XR	48.78
55 KR	47.16

0441 Asked 55 for weather update: light rain, ∅ wind speed

Playback 0145 → 0550
VSRIB 0151 → 0550